





NEW YORK ZOOLOGICAL SOCIETY

ANNUAL REPORT

19



56



THIS IS THE SIXTY-FIRST
ANNUAL REPORT OF THE
NEW YORK ZOOLOGICAL
SOCIETY - - - - 1956

THE SOCIETY'S OFFICES
30 EAST 40TH STREET, NEW YORK 16

THE ZOOLOGICAL PARK
BRONX PARK, NEW YORK 60

THE AQUARIUM
CONEY ISLAND, BROOKLYN 24



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REPORT OF THE PRESIDENT

FAIRFIELD OSBORN, *President*

THE YEAR HAS, as usual, been a lively one. The outstanding event was, of course, the formal delivery to us by the contractors, on September 27, of the new building representing the first stage of the new Aquarium, which has faced us with the intricate task of getting it ready and accumulating the collections for the public opening in the late Spring of 1957.

Through the year a program of general improvements at the Zoological Park has been carried out and plans have been completed for three new major improvements there, namely, moated bear dens, the complete modernization of the old Primate House and extension of parking field facilities, all of which will be initiated in the coming year.

Active work has been carried forward in Wildlife protection, including completion of a survey on the status of Bighorn Sheep in the United States; completion of a study of the Lesser Fauna of the Western Plains, and, notably, financing of an expedition to the Brooks Range in northern Alaska under the leadership of Dr. Olaus Murie for the purpose of studying the need for the establishment of a wilderness area in that region. The responsibilities of our Society for protecting wildlife extend as well to other parts of the world. There is cause for special concern regarding the status of the fauna of Africa. With this in mind we have sent a competent field naturalist, George Treichel, to Africa, to make an exhaustive series of observations on the status of wildlife there, with special reference to the possibilities of the long-term protection of African fauna in National Parks and Wildlife Preserves. Mr. Treichel has been commissioned to prepare a complete handbook of these Parks and Preserves which will be published after the completion of his field work.

The purposes of the Society in carrying out scientific research have been well met in the year and the support accorded some of our research programs from outside sources such as the National Science Foundation, the American Cancer Society and the National Geographic Society, and others, is especially gratifying.

In regard to finances, the eventuality indicated in last year's report, has come about. For the first time in many years the continuing trend towards high costs of operations has resulted in our operational expenses exceeding available income by \$6,985.45. Granting that

this trend toward operating deficits is not an unusual one with an institution such as ours, it is nevertheless a regrettable condition which can only be cured by substantial additions to our capital funds. In this connection it should be observed that the Society practices a conservative financial policy in that gifts and contributions are placed into capital account and not credited to operating income unless such gifts are designated for special purposes. Consequently operating income in our procedure is solely that income which is derived from invested capital funds, from membership dues and from other miscellaneous current income sources.

Contributions and grants received during the year aggregated \$116,726.27, of which \$37,436.98 was specifically designated for the new Aquarium Fund. In addition, we have been formally notified of two legacies approximating more than \$50,000, payment of which is expected to be received during the coming year.

It is an encouraging fact that our membership has increased somewhat within the year, annual dues totalling \$48,820, the highest amount received in the Society's history.

The Society suffered a loss through death of a loyal member of its Board of Trustees, Mr. Marshall Field. It was he who made, anonymously, an extremely important gift of some \$120,000 that made possible the construction of the African Plains exhibit, this outstanding unit being the first major step in the extensive modernization program at the Zoological Park, which has been carried out without pause since the early 1940s.

Mr. Peter Gimbel and Mr. Alfred G. Vanderbilt were welcomed to membership on the Board.

During the year there occurred two well-deserved recognitions of highly competent, effective and loyal service: Dr. John Tee-Van was appointed General Director of the Zoological Park and the Aquarium, and Mr. Christopher Coates was appointed Director of the Aquarium. In addition, we welcomed as a new staff member, Mr. William G. Conway, who was appointed Associate Curator of Birds, and Mr. Charles B. Driscoll, who was appointed Superintendent of Construction and Maintenance to fill the vacancy caused by the death of Mr. Quentin M. Schubert who had competently filled that post for a number of years.

We shall greatly miss our working associate, Mr. Donald T. Carlisle, whose untimely death occurred on April 5. Mr. Carlisle, among his other responsibilities as vice-president, contributed his unusual talents to building up our membership, which greatly increased during his years with the Society. Mr. Gordon Cuyler is now taking

over this work as membership secretary and is carrying it forward with notable success.

The record of the year would not be complete without complimenting Dr. William Beebe, Director Emeritus of the Department of Tropical Research, and Miss Jocelyn Crane, Assistant Director of that Department, for the continuing and highly productive work of the Department both in the field and in the laboratory.

Once again, it is a deep pleasure to record the appreciation of our Society for the extraordinary competence and loyal work of all of our staff members, as indeed of all of our employees who make this Society what it is.

THE ZOOLOGICAL PARK AND THE AQUARIUM

JOHN TEE-VAN, *General Director*

THE visits during the past year of thirteen European and Asiatic Directors of Zoological Parks and Aquariums to the Zoological Park, bring to mind the international aspect of an institution such as ours. We discussed with these Directors the concept of a zoological garden in its broadest aspects. The need for exhibits, well-planned and shown with thought for the public as well as for the animals, was developed. Educational aspects of a zoological park were talked over. We showed the Directors our plans and ideas for new developments and we in turn discussed their problems. The results of these visits were excellent and have resulted in a number of exchanges of animals, plus a general feeling of good-will engendered by us towards our fellow workers which is quite evidently reciprocated by them. A truly international feeling was produced—fostered and stimulated by the animals that we and they exhibit. The animals do not recognize national borders!

Stage One of the new Aquarium on the ocean front at Coney Island was accepted by the Society on Thursday, September 27; thus, after fifteen years the Aquarium now has a home of its own. The staff now has a long and arduous task before it in getting the Aquarium in condition to open on June 5, 1957. The Aquarium's parking field was opened for operation on August 1, 1956. Details as to what has been accomplished in this remarkable new operation of the Society will be found in the report of the Aquarium.

Two young walruses, a male of 250 pounds and a female of 350 pounds, were the first inhabitants of the Aquarium.

New animals continue to come to the Zoo and our collections are in excellent condition. To name a few, a female Okapi, the third Okapi in our collection, is now in the Antelope House, while three Marco Polo Sheep now grace Mountain Sheep Hill, an important addition to our collection and the second group ever to come to America. "Phoebe II," a young female Hippopotamus, is now in the Elephant House where she may be seen with her mate, "Peter II." Two young Markhors—the male with a long beard—are also on Mountain Sheep Hill.

Births continue at a rapid rate, as evidenced by our deer herds which spread out each year and each year have to be arbitrarily reduced in numbers. A young Gibbon was born, the sixth from the

pair which came to us in 1942. Our female Otter produced four young, three of which lived. A young Zebra was born in August and is now in the Zebra House yards.

A zoological park must continually develop new exhibits. Without this constant change it speedily deteriorates. Consequently, during the past year we have developed plans for new Bear Dens — enclosures that will show the bears against the sky line without bars. The Primate House on Baird Court is being planned for monkeys and apes, after the completion by the City of New York of the floor and a new roof. A new parking field — an extension northward of the Crotona Field — which will take care of 1,000 cars, is also under way. This field in the southwest corner of the Park will remove the elk from their present enclosure and we will have to settle them elsewhere.

During 1955 construction began on the rehabilitation of the Wild-fowl Pond. New walls were constructed around the edge of the pond and replanting has been done about its borders. Bird Rock, in the center of the Park, has been rebuilt with a larger pool and with new planting. The floors of the inside cages of the Lion House were removed and reinstalled, providing quarters that are solid and well established.

Obtaining new personnel for the key positions at the Zoological Park continues to be difficult. With the filling of our Associate Curator's post in the Bird Department by William G. Conway, formerly of the St. Louis Zoological Garden, we completed that opportunity. But our curatorial position in the Mammal Department troubles us greatly. The requirements of the position — a general knowledge of the mammals of the world and their requirements of shelter, food and care; awareness of the intangibles involved in the exhibition of animals to the public; a pleasant personality and the ability to write well and to do research — all these pose problems that are difficult to answer.

The status of membership in the Zoological Society is a healthy indication of the well-being of the Society. During the last year there were 3,287 members, an increase of 154 over the previous year, and contributing memberships increased by 164 to an all-time record of 863. This is indeed good news. As part of the membership program, a newsletter was posted from the Fiji Islands by Miss Jocelyn Crane, telling about her expedition in Tahiti and the Fiji Islands.

Special trains of the New Haven Railroad continued their trips of the previous year to the Zoological Park, bringing hundreds of people from Providence, Springfield, New London, Pittsfield and Winsted. The trains arrive at the defunct West Farms Station of the railroad

about a mile east of the Park and the passengers are brought here by buses. This is an excellent extension of our services in which the Education Department has functioned well by providing radio talks and by riding on the trains while showing and talking about some of the animals.

During the past year, the Career and Salary Plan of the City of New York has been in effect. The plan has worked quite well and provides increments for a period of five years with a longevity increase three years later. There are still a considerable number of employees who are not completely classified.

The Director visited Simla, the Society's Research Station in Trinidad, B.W.I., where Dr. William Beebe and Miss Crane are engaged in research. He continued on to British Guiana where he visited Kartabo, the now deserted field station of the Society during 1917 to 1924, which has been lumbered off by companies engaged in the extraction of "greenheart."

Our Superintendent of Maintenance and Construction, Quentin Melling Schubert, died on August 25. He will not be absent from our memories, as many of the buildings and installations were erected during his incumbency. Charles Driscoll became the new Superintendent of Maintenance and Construction.

Dr. Richard Manville left our employ on June 24, 1956.

Attendance in 1956 was slightly greater than in 1955, 2,143,356 against 2,114,961. The major institutions of the City, in most cases, had comparable increases.

SUMMARY OF ATTENDANCE

ZOOLOGICAL PARK

<i>Month</i>	1955	1956
January	49,098	49,120
February	66,240	108,822
March	104,371	83,586
April	229,400	242,913
May	364,957	281,387
June	245,215	241,544
July	283,083	338,369
August	248,236	273,742
September	234,814	219,946
October	160,225	168,884
November	97,841	95,287
December	31,481	39,756
	<hr/> 2,114,961	<hr/> 2,143,356

Total visitors from November 9, 1899,
to December 31, 1956 123,337,885

DEPARTMENT OF MAMMALS

RICHARD H. MANVILLE, *Curator* (to June 24)

GRACE DAVALL, *Assistant Curator*

AUGUST SCHILLING, *Head Keeper* (to October 26)

JOSEPH RUF, *Head Keeper* (since November 1)

LEE S. CRANDALL, *General Curator Emeritus*

DURING 1956 there were many noteworthy additions to the collection. Heading the list was a female Okapi received as a gift of the Belgian Congo Government on November 1, giving us the distinction of being the first American zoo to exhibit a pair of this rare species. Due to the fact that she was heavily parasitized on arrival, "Muyoni" was placed in a cage adjoining that of her intended mate, "Bilota," the male brought here in June of 1949 by Charles Cordier. Improvement in the condition of "Muyoni" as the result of expert veterinary treatment and devoted keeper care, would indicate that the introduction of our two Okapis may be accomplished early the coming year.

Species received during the year that had not previously been exhibited here included an Olingo, *Bassaricyon gabii*, a Big Brown Bat, *Eptesicus fuscus*, eight Palestine Spiny Mice, *Acomys dimidiatus dimidiatus*, and last but not least, three Marco Polo Sheep, *Ovis ammon polii*. The Spiny Mice came to us as the gift of George Ballou, together with a Palestine Long-eared Hedgehog; the Big Brown Bat was picked up locally on March 19, apparently an early northward migrant caught in the "big snow" of that date; the Olingo, strangely enough, was acquired in exchange for a Kinkajou (a species preferred by the original owner!), and the arrival of the trio of Marco Polo Sheep was the culmination of negotiations and arrangements that covered well over a year. These large sheep have been imported into the country only once before, in 1955, for the Cleveland Zoological Park. Our specimens, a male and two females, are splendid attractions in the south corral of Mountain Sheep Hill.

Other important accessions acquired by purchase included a pair of Saiga Antelope, a species which we had not had since 1939, a pair of Markhor, last seen here in 1942, a male Reindeer for which we were able to arrange a timely arrival a few weeks before Christmas, a young female Hippopotamus that weighed in at 690 pounds, and a hand-reared female Cheetah. Gifts included an Indian Langur presented to us by Mrs. Henry Clay Frick, an Atlantic Harbor Seal and two Harp

Seals, from the Atlantic Biological Station, New Brunswick, Canada, another Atlantic Harbor Seal, from the Woods Hole Oceanographic Institution, and a Tenrec. From the Lincoln Park Zoo in Chicago, we received two Raccoon-like Dogs on an exchange basis, also a male Uele Colobus Monkey, as a temporary deposit or loan. The loss of our own male of this species had left us with the two females that were collected by Charles Cordier on our Belgian Congo Expedition in 1949.

Four Florida Otter born on January 5 inaugurated the year's activities in this department and, as in 1955, a litter of Dingo pups (five) was the last recorded birth for the year. The Otter represented our first success in rearing this species. Also included in the total of 85 mammals born in the Zoological Park during 1956 were an Agile Wallaby, a Congo Potto, a Black Lemur, a Brazza \times Wolf's Monkey hybrid, a Wanderoo, two Patagonian Cavies, eight Red \times Silver Fox hybrids, a Polar Bear, two Tigers, a Grant's Zebra, our first of this species born here since 1941, four Mouflon, an Aoudad, two Himalayan Tahr, three Muntjac, three Guanaco, an Eland, a Blesbok, two Blue Duikers, four Blackbuck, a Barasingha Deer, six Red Deer, one Sambar Deer, six Sika Deer, two Axis Deer, one Dybowski Deer, seven Formosan Deer, two Fallow Deer, two Père David's Deer, three Elk and five White-tailed Deer.

"Castor" and "Pollux" were the twenty-sixth and twenty-seventh cubs born to our prolific Tigress "Dacca" and her mate "Rajpur," on June 3. Because of the disturbance caused by the laying of new floors in the Lion House at the time of their birth, the two cubs were hand-reared by Helen Martini and during the summer months their bottle feeding was an extremely popular afternoon event. Visitors watched from a grand-stand that had been erected in front of one of the outside cages of the Lion House, while a public address system carried the voice of Helen Martini explaining about the cubs, plus her words of endearment to them and their impatient squalls.

A number of surplus deer were sold to Roland Lindemann of the Catskill Game Farm and from him we purchased a female Bison and a male Yak, animals required to provide us with a breeding pair of each species. More important, however, was his making available to us his lone male Chinese Water Deer. Since the loss of our only male, which had left us with eight females, we had despaired of obtaining a replacement. The species is rare and import regulations make the procurement of hoofed animals a costly, time-consuming and risky business.

A male Jaguar that had been born here in 1954 was presented to the Seneca Park Zoo in Rochester, New York, and the Belmont State

Park in Babylon, Long Island, was the recipient of two Red X Silver Foxes that we were unable to accommodate but which it was delighted to receive for its Trailside exhibit of native animals. Additional surpluses disposed of included a Wolverine shipped to the Granby Zoological Gardens, two Dingos to the Catskill Game Farm and a female Eland to the Central Park Zoo, to which we also sent our family group of three Guinea Baboons, on a deposit basis, until our Primate House is again ready for occupancy.

Inevitable losses occurred during the year. Most keenly felt was the death of the female of our pair of young Hippopotamuses acquired in 1953. "Phoebe" had been in apparent good health and it was a shock to find her dead in her pool on the morning of July 6. We were fortunate in being able to secure a replacement the following month and are again able to exhibit a fine pair of young Hippopotamuses in the accommodations occupied for so many years by "Pete," who established a longevity record for the species when he died here at the age of forty-nine years, six months and nineteen days. Other important deaths included a Warthog which had been received in 1940, a male Onager, both the only representatives of the species in our collection, a male Gayal that had been received in 1939, a Greater Kudu, the male of our pair of Cape Buffalo, a female Saiga Antelope and a male Grizzly Bear that had arrived here as a cub in 1930 and weighed 995 pounds at death.

Early in the year, in preparation for the remodelling of the Primate House, all of the occupants of that building were removed to other accommodations in the Park. A new roof and new floor were installed in the building and plans are now in progress for the construction of glass-fronted exhibition cages which will completely modernize the building. Constructed in 1901 at a cost of \$59,700, the Primate House has for well over fifty years been one of the most popular buildings in the Park. New concrete floors were also installed in all of the inside Lion House cages, another much needed improvement in one of our older buildings, which has been occupied since 1902.

All of the outside yards of the Great Ape House are now equipped with apparatus designed to enhance the attractiveness of these yards and provide opportunity for the anthropoids to engage in more active play during the summer months.

The television program "Adventure" emanated from the Great Apes House on Sunday, January 14, and from the Lion House on April 8, with Curator Richard Manville and Lion House Keeper John Martini participating, respectively, and Marlin Perkins' "Zoo Parade" was broadcast from the Great Apes House on September 16.

During the early summer, courtship activities of our Platypuses

"Cecil" and "Penelope" raised our hopes in this direction. However, both activities and hopes were short-lived. It is of interest to note that since their arrival here in April of 1947, well over half a million people have taken advantage of the rare opportunity to see a *Platypus* outside its native Australia.

Dr. Leonard J. Goss assumed charge of the Mammal Department after Curator Richard H. Manville left the service of the Society on June 24, and at the end of the year the Curatorship had not been filled.

On October 27, Head Keeper August Schilling retired on pension after twenty-eight years of service and the Mammal Department suffered the loss of another faithful employee with a similar term of service, in the person of Keeper John Merritts, who retired on pension as of June 14.

A census of the mammal collection, taken December 31, 1956, follows:

CENSUS OF MAMMALS

December 31, 1956

<i>Orders</i>		<i>Species</i>	<i>Specimens</i>
MONOTREMATA	Echidnas, Platypuses	1	2
MARSUPIALIA	Kangaroos, Phalangers, Opossums, etc.	10	19
INSECTIVORA	Moles, Shrews, Hedgehogs, etc. ...	2	2
PRIMATES	Apes, Monkeys, Lemurs, Marmosets, etc.	45	77
EDENTATA	Armadillos, Sloths, Anteaters	1	1
RODENTIA	Squirrels, Beavers, Mice, Porcupines, etc.	13	28
CARNIVORA	Bears, Raccoons, Cats, Dogs, Otters, etc.	36	87
PINNIPEDIA	Seals, Sea Lions, Walruses	5	10
PROBOSCIDEA	Elephants	3	5
PERISSODACTYLA	Horses, Tapirs, Rhinoceroses	8	12
ARTIODACTYLA	Cattle, Sheep, Antelopes, Camels, Giraffes, Deer, Swine, Hippopotamuses	54	286
	TOTALS	178	529

Summary: Orders, 11; Species, 178; Specimens, 529.

DEPARTMENT OF BIRDS

WILLIAM G. CONWAY, *Associate Curator* (since November 15)

GRACE DAVALL, *Assistant Curator*

GEORGE SCOTT, *Head Keeper*

LEE S. CRANDALL, *General Curator Emeritus*

THE BIRD DEPARTMENT ended the year with 571 species and the greatest number of specimens it has exhibited since 1947. Twenty-three forms not previously exhibited were added to the collection during the year. Since the resignation of Robert McClung as Curator on February 14, 1955, the load of the Bird Department has fallen upon Assistant Curator Grace Davall. The present status of the collection is a real tribute to the ability and efficiency of Miss Davall, who is also responsible for major duties in other departments. The Bird Department continues to benefit from the excellent counsel and unparalleled experience of Mr. Crandall, General Curator Emeritus.

William Conway, former Curator of Birds at the St. Louis Zoological Garden, in St. Louis, Missouri, joined the staff in mid-November.

Near Watkins Glen, New York, an injured Pileated Woodpecker floundered by the road where it was found by Mrs. Mary Powers of Brooklyn. Brought to the Park and carefully treated, this bird became the first of these spectacular native forest dwellers to adorn our collection. With this notable addition from New York's local forests, the year's acquisitions were off to a handsome start.

Several of these were of special interest:

Two huge Hooded Vultures, purchased from a dealer in Germany. Our last specimen came in 1925 from one of the Asiatic expeditions led by Roy Chapman Andrews and lived for nineteen years in the Park. A young Bateleur Eagle from Nairobi collectors, which has proved delightfully tame and gentle. A Gray Crane Hawk, presented by Trustee John H. Phipps. This bird soon became the topic of much comment and discussion when it was found that its tibio-tarsal joint may be flexed either forward or backward. Two Black and two Egyptian Kites, species not represented in our collection in nearly thirty years. A Milky Eagle-Owl, purchased as cage mate for our old specimen in the collection since 1941. In this time of rising costs, the Bird Department takes some solace in noting that the price of Milky Eagle-Owls is the same as it was fifteen years ago! An American Hawk Owl and a magnificent Great Gray Owl from the Edmonton

Zoological Society in Alberta, Canada. The Great Gray Owl has the greatest dimensions of any North American owl. Three lovely birds of paradise, a King, a Red, and a Wilson's, which help us continue our fine standing in the exhibition of these "feathered fireworks"-makers. A Sarus Crane, largest of the world's cranes, was received as part of an exchange with the Staten Island Zoo. During the year several Crowned and Demoiselle Cranes were purchased for exhibition on Bird Rock and the African Plains. Painted Bush Quail and Barbary Partridges from Frank Strange of California. A growing number of unusual gallinaceous birds are being bred by California private aviculturists. Some species which were available formerly only through the efforts of collectors in the wild are now becoming common in captivity. Two Keas arrived as the result of negotiations with the Wellington Zoological Gardens of New Zealand. These strange, rare psittacines are renowned for their recently acquired habit of feeding upon sheep. European Oyster-catchers and Redshanks presented to us by the Copenhagen Zoological Gardens. Brown Pelicans, Snowy and Reddish Egrets from the Forest Park Zoo of Fort Worth, Texas. These birds were part of a local collection which the Forest Park Zoo shared with us. Two Pheasant-tailed Jacanas purchased from Melville Strann of California. These very strange, long-toed birds are quite rare in captivity and were the first of the species we have exhibited. Six American Flamingos were presented by the Hialeah Race Track. The Hialeah Race Track Association now has a breeding colony of several hundred flamingos. A Crimson-breasted Barbet, from Java, two Black-breasted Barbets from Africa, and a Uganda Double-toothed Barbet were purchased. All of these rare, attractive barbets were new to the collection. As of December, 1956, we have exhibited thirty-four species of this interesting group. A Turquoise-browed Motmot, collected in Yucatan, was sent to us by Oliver Griswold of Miami University. Mr. Griswold has sold us a number of new and very desirable birds during the past two years. The motmot, with its long racquet-tipped tail, was one of the most striking bird exhibits at the Annual Meeting.

Several desirable donations were received, including:

A pair of Javan Strawberry Finches by Jean Delacour.

Six Jamaican Bananaquits and three Petcharies by Harry Zelenko.

A number of waterfowl, including: Mandarins, Red-crested Pochards and Wood Ducks by T. Donald Carter.

A fine collection of cage birds including five species of finches, several soft-bills and two Blue-headed Parrots.

A group of pheasants and an Egyptian Goose by Jerome Levine.

Work on the Wildfowl Pond precluded the possibility of a successful waterfowl breeding season. The most notable breeding was that of a pair of American White Ibis which successfully reared two young. Our breeding Black-foot Penguins were unsuccessful this season.

Losses are inevitable in a collection of living animals. The loss of a Congo Peacock was keenly felt. Our two remaining males are the only specimens in captivity and date from our Congo Expedition of 1949. The specimen was sent to Dr. Herbert Friedman of the Smithsonian Institution in Washington, D. C. A Tawny Frogmouth died with chronic nephritis. These huge Australian caprimulgids are extremely difficult to obtain and the only representative of their order we usually exhibit. Our Rockhopper Penguin died suddenly after seven years in the Park. It is unlikely that this species will become available in the near future. Three Crowned Cranes and two Demoiselle Cranes died of injuries sustained at Bird Rock.

A number of building and enclosure improvements were undertaken during the year. The glass-fronted exhibit cage on the west end of the Flying Cage in the Main Hall of the Large Bird House has long been a problem owing to reflections. A baffle corridor has effectively reduced these reflections. The Wildfowl Pond, long subject to attacks of botulism which have devastated our waterfowl collection from time to time, was extensively renovated. A retaining wall, replanting and regrading are in their final stages.

Several repairs were completed at the Pheasant Aviary, which was repainted. Bird Rock has received another pool and the original enclosure was divided by a fence to enable us to display a greater number of species there. A door was made from the Aquatic Bird House Extension to the Flamingo Pool, permitting relatively safe and easy shifting of these delicate birds. The Eagle Aviary has been repainted and a dragging of Heart Lake has been planned, with the possibility of giving the bottom a hard surface.

With the help of the Tree Climbing and Pruning Crew, the Bird Department was able to begin a gradual cage redecoration program. The first steps of a future building plan for the Department were started.

In mid-December, George Williamson, veteran bird keeper and Assistant Supervisor, was stricken with a heart attack. Mr. Williamson is convalescing and we look forward to his return.

SPECIES NEW TO THE COLLECTION ACQUIRED IN 1956

African Buff-backed Egret—*Bubulcus ibis ibis* (Linnaeus)

Gray Crane Hawk—*Geranospiza caerulescens caerulescens* (Viellot)

Barbary Partridge—*Alectoris barbara barbara* (Bonaterre)
 Painted Bush Quail—*Cryptoplectron erythrorhynchum erythrorhynchum* (Sykes)
 Pheasant-tailed Jacana—*Hydrophasianus chirurgus* (Scopoli)
 Large-billed Tern—*Phaetusa simplex* (Gmelin)
 American Hawk Owl—*Surnia ulula caparoch* (Müller)
 Great Gray Owl—*Strix nebulosa nebulosa* Forster
 White-collared Kingfisher—*Halcyon chloris palmeri* (Oberholser)
 Yucatan Turquoise-browed Motmot—*Eumomota superciliosa superciliosa*
 (Sandbach)
 Uganda Double-toothed Barbet—*Lybius bidentatus aequatorialis* (Shelley)
 Black-breasted Barbet—*Lybius rolleti* (Defilippi)
 Crimson-breasted Barbet—*Megalaima haemacephala rosea* (Dumont)
 Northern Pileated Woodpecker—*Dryocopus pileatus abieticola* (Bangs)
 Jamaican Petchary—*Tolmarchus caudifasciatus jamaicensis* (Chapman)
 Regal King Bird of Paradise—*Cicinnurus regius rex* (Scopoli)
 Javan Fairy Bluebird—*Irena puella turcosa* Walden
 Chestnut-bellied Glossy Starling—*Spreo pulcher pulcher* (Müller)
 Swaheli Mariqua Sunbird—*Cinnyris mariquensis suahelicus* Reichenow
 Kenya Amethyst Sunbird—*Chalcomitra amethystina doggetti* (Sharpe)
 Javan Strawberry Finch—*Estrilda amandara punicea* (Horsfield)
 Bluish Tanager—*Thraupis virens caerulea* Zimmer
 Northern Black-headed Saltator—*Saltator atriceps atriceps* (Lesson)

CENSUS OF BIRDS

December 31, 1956

Orders		Species	Specimens
STRUTHIONIFORMES	Ostriches	1	3
RHEIFORMES	Rheas	2	3
CASUARIIFORMES	Cassowaries and Emus	2	5
TINAMIFORMES	Tinamous	2	3
SPHENISCIFORMES	Penguins	7	22
PELECANIFORMES	Pelicans, Cormorants, etc.	8	16
CICONIIFORMES	Herons, Ibises, Storks, Flamingos, etc.	32	70
ANSERIFORMES	Swans, Ducks, Geese and Screamers	54	388
FALCONIFORMES	Vultures, Hawks and Eagles	26	36
GALLIFORMES	Quail, Pheasants, etc.	46	133
GRUIFORMES	Hemipodes, Cranes, Trumpeters, Rails, etc.	23	46
CHARADRIIFORMES	Plovers, Sandpipers, Gulls, etc.	18	43
COLUMBIFORMES	Pigeons, Doves and Sandgrouse	30	78
PSITTACIFORMES	Parrots, etc.	28	42
CUCULIFORMES	Touracos and Cuckoos	5	5
STRIGIFORMES	Owls	11	19
CAPRIMULGIFORMES	Frogmouths	1	1
APODIFORMES	Hummingbirds	8	13
TROGONIFORMES	Trogons and Quetzals	1	4
CORACIIFORMES	Kingfishers, Hornbills, etc.	10	16
PICIFORMES	Barbets, Tocans and Woodpeckers	28	45
PASSEIRIFORMES	Perching Birds	228	474
	TOTALS	571	1,465

Summary: Orders, 22; Species, 571; Specimens, 1,465.

DEPARTMENT OF REPTILES

JAMES A. OLIVER, *Curator*

STEPHEN SPENCOCK, *Head Keeper*

PROPER HOUSING FACILITIES are of the utmost importance in the maintenance of a large and varied collection of animals. This is true of all animals, but is particularly true of most reptiles and amphibians. Unlike mammals and birds, for example, they are dependent on external sources of warmth. Some species need fairly high temperatures, whereas others require less warmth. Providing the right conditions in which to keep and exhibit the specimens in the collection requires constant attention and occasional changes. Our newly remodeled Reptile House gives us a wide variety of conditions under which a truly spectacular collection of living reptiles can be maintained.

Even here we have our limitations, primarily in the form of inadequate space for large reptiles, and feel the need of expanding and improving our present facilities. In 1956 an important and substantial modification was made in the Komodo Monitor cage to provide better heating and to give these impressive reptiles more attractive quarters. The team of Harmon Goldstone, Teresa Kilham and Ed Maps, who had done such a splendid job in designing the interior of the Reptile House, produced a colorful modern setting for our wonderful "dragons." The lizards have responded to the comfortable life they now lead, becoming heavier and amazingly docile. In fact, they seem more like big, lethargic dogs than reptiles. When the keepers clean the cage the Monitors follow them around and appear to enjoy having their necks scratched.

We wanted to weigh the Komodo Monitors to see how much they had gained since their arrival — both are visibly plumper than when they reached us. Weighing them presented a bit of a problem, but was finally solved by walking them out of their enclosure and onto large scales in the visitors' space. This was done, of course, when the building was closed except to newspaper reporters and photographers. The lizards took it all in stride and behaved beautifully while on the trip outside their home. The female showed a substantial increase in weight from 109 to 133 pounds, but the male's weight was down to 205 — a loss of 13 pounds. We cannot believe he has actually lost any weight, because he is heavier-looking now than when he arrived. We feel certain there must have been an error in the weight recorded on arrival.

An incidental note of interest relating to our Komodo Monitors is that an animal dealer offered us five thousand dollars apiece for them. Our emphatic reply was, "no sale!"

In 1955 our King Cobras made zoological history by being the first of their species to mate in captivity. They repeated this performance in 1956 and our Staff Photographer, Sam Dunton, photographed in colored movies the entire courtship, mating and nest-building activities. His films give a marvelous scientific record of the reproductive behavior of these unusual snakes. It is interesting to note that the snakes began mating earlier this year, but the female built her nest and laid eggs the same time of the year as in 1955. She laid a total of 51 eggs in 1956, but many were defective and we were unsuccessful in hatching any young.

A highlight of the year for the Curator was a visit to the Simla Field Station of the Department of Tropical Research. It was a privilege and great pleasure to spend a month at the station with Dr. William Beebe and Miss Jocelyn Crane and their staff. This establishment in the jungle-clad hills of northern Trinidad offers enormous possibilities for field work and research in many aspects of biology. It was extremely stimulating to see at first hand the fascinating studies being carried on there and to see the life of the area with Will Beebe.

While there the Curator of Reptiles carried out experiments on different methods of collecting snakes in the tropics, made field observations on local reptiles and collected a small group of specimens for exhibition in the Reptile House — seventeen snakes, five frogs and three lizards. The most outstanding specimen was a young Bushmaster, 24 inches long, that fed four times before leaving Trinidad. When it reached New York however, it performed in the characteristic fashion of Bushmasters in captivity by refusing all food. Our hopes for exhibiting this species once more remain unfulfilled.

Several rare or unusual species were added to the collection. Early in the year we received a Tuatara — the second in the Society's history. Like our first, this was a gift from the Department of Internal Affairs of the New Zealand Government and arranged through the office of the New Zealand Consul General in New York. The addition of this rare reptile makes it possible for us once more to be one of the very few zoos in the world exhibiting representatives of all orders of living reptiles.

Our crocodilian collection was augmented by the addition of several rare species. Founder in Perpetuity Saul Blickman, who has donated many interesting and unusual species from India, succeeded in getting us four young Indian Gavials. These rare and odd-looking

crocodilians are attracting considerable interest and are growing at a rapid rate. Mr. Blickman also got us some young Indian Mugger Crocodiles (*Crocodylus palustris*). By way of a mutually profitable exchange with Wroclaw Zoological Garden of Poland, we obtained a specimen of the rare and nearly extinct Chinese Alligator. This specimen was shipped during the outbreak of trouble in Poland, but fortunately came through without delay. By purchase we obtained an excellent specimen of Cuban Crocodile. These additions give us representatives of half the species of living crocodiles, making ours one of the largest collection of living crocodilians in the world.

The outstanding turtle acquisition of the year was a "baby" Galapagos Tortoise (*Testudo elephantopus vicina*) and represented the last of the colony established by the Society in Florida a quarter of a century ago. This is a female and is the only living Galapagos Tortoise bred and hatched in the United States. Two eggs were hatched in the Florida colony on August 4, 1939; one of the young died in 1947 and the other was reared in Florida by G. F. Sirman, in charge of the colony. Mr. Sirman made quite a pet of the surviving youngster and raised it to a fine half-grown young tortoise weighing slightly more than 100 pounds. He promised the late Dr. C. H. Townsend of the Aquarium, who had established the original colony, that he would send the tortoise to us if he ever had to part with it. Now well along in years, he decided the time had come and sent her to join our other former members of the Florida colony.

Three snakes that came to us during the year deserve mention. The first of these was a little Guatemalan Boa (*Ungaliophis continentalis*). This is a rare species known in museum collections from only a few specimens found in shipments of bananas — practically none have been collected in the wild. Our specimen was unusually large and healthy. It was sent to us by Professor Kimber Kuster and had been found in bananas in Bloomsburg, Pennsylvania. The second outstanding snake was a beautiful young Amethystine Python from Australia. It is the first time we have exhibited the species and it is a welcome addition. This python is the largest snake in Australia, attaining a length of more than 20 feet. It feeds on mammals, including wallabies and small kangaroos. Our specimen is about ten feet in length and is just a youngster. The third noteworthy snake was not a member of a rare species, but was of interest for its known age. This was Hortense, a female Timber Rattlesnake that had been in captivity for 19 years — a record for the species. The snake was collected on Mt. Tom, Massachusetts, in 1937 and had been kept in the Museum of the Holyoke Public Library until last year when it was sent to the Fairbanks Museum in Vermont. The Director, Fred-

erick H. Mold, thought a non-venomous species would be more suitable for his museum and sent Hortense to us.

Lizards of note were a group of 12 Gliding Lizards (*Draco*) sent to us from the Philippines by John Lednicky. Unfortunately, these delicate forest-dwelling species do not thrive well in captivity. Anthony Vincenzi, II, sent an interesting young Pacific Monitor from a group of islands from which it had not previously been recorded, thus providing a considerable extension of the geographic distribution of the species.

From Robert Copping in Ecuador we purchased four specimens of the large Colombian Giant Toad (*Bufo blombergi*). We were the first zoo ever to exhibit this colorful species and we are glad to have it in the collection again. This toad is a real rarity and its large size makes it an attractive exhibit.

During the year we received a total of 766 specimens — an increase of 168 over last year. As in other years, most of these were gifts of pet turtles and pet crocodilians, chiefly Caimans. Purchases accounted for 151 additional animals, whereas exchanges brought us 30 specimens. At the same time we sent out 75 specimens on exchanges or gifts and sold 2 individuals. The following institutions and individuals participated in exchanges and donations of specimens: the Aquarium and the Department of Tropical Research, the Staten Island Zoo, the American Museum of Natural History; the Zoological Society of San Diego; Lincoln Park Zoo, Chicago; National Zoological Park, Washington, D. C.; Philadelphia Zoological Garden; Fairbanks Museum, St. Johnsbury, Vermont; Buffalo Zoo; Cleveland Zoo; El Paso Reptile Gardens; Kentucky Reptile Gardens; the United Fruit Company, Weehawken, New Jersey; Professor Kimber Kuster, Bloomsburg, Pennsylvania; The Department of Internal Affairs, New Zealand; Alan Barnett, New York; Dr. Popp, Dessau, Germany; John Lednicky, Manila, Philippines; Sir Edward Hallstrom, Sydney, Australia; Anthony Wolffsohn, British Honduras; Wroclaw Zoological Garden of Poland; Maribor Aquarium, Yugoslavia; Biologische Station, Vienna; Reginald Bloom, Kenya, Africa; Dr. Wilbur Downs, Trinidad, B. W. I.; African Manganese Co., British Guiana; Nice Museum, France.

Dr. Oliver worked with Staff Photographer Dunton on photographing the reproductive behavior of the King Cobras, on the educational films, "The Defenses of Reptiles" and "The Prevention and Treatment of Snakebite." Neither of the educational films was completed, but important sequences were recorded. The film on the King Cobras is a complete record of their activities and has been shown to several

scientific organizations, including the American Society of Ichthyologists and Herpetologists, the staffs of the Museum of Comparative Zoology at Harvard and the Chicago Natural History Museum.

Research activities continued to center around the recording of observations on reproduction, growth, longevity and behavior of reptiles. The breeding of our King Cobras provided an excellent opportunity of recording detailed data on this practically unknown phase of the life history of the species and our observations were summarized in a published report. This appeared in *Zoologica*, Volume 41, part 4, for December, 1956, and was entitled "Reproduction in the King Cobra, *Ophiophagus hannah* Cantor." Controlled experiments were continued on various aspects of the biology of turtles. While in Trinidad Dr. Oliver conducted investigations on the reptile fauna of that island. The results of these studies will be published later, some jointly with Dr. Beebe. Several cooperative research projects were carried out or material was supplied for individuals in other departments of the Zoological Society or in other institutions, including the American Museum of Natural History, Columbia University and New York University Medical School.

Early in the year Dr. Oliver travelled to Gainesville, Florida, to present an address to the Florida State Science Talent Fair held at the University of Florida. In June he attended the annual meeting of the American Society of Ichthyologists and Herpetologists where he gave a paper on "The Reproduction of the King Cobra," illustrated by Mr. Dunton's motion pictures. The Curator also spoke to the following groups:

Biology-Medical Society, Queens College, Flushing, N. Y.
Parents-Teachers Association, Hawthorne, New York
Boy Scouts of America, Pleasantville, New York
Zoological Park, In-Service Teachers' Course

The Reptile Club continues to flourish and has grown to a membership of more than fifty young boys and girls, many of whom keep pet amphibians and reptiles. Several members are carrying on investigations on their pets or on animals in the wild.

Dr. Oliver published an article on snakes in the "Yearbook of the American Peoples Encyclopedia," one on "Terraria and Aquaria" in the "Encyclopedia Americana," and one on "Living Lizards" in "The Book of Popular Science. He also wrote the following articles for *Animal Kingdom*:

"A Rare Gift: The Guatemalan Boa"—Vol. 59, No. 2.
"Hortense Has No Tail to Tell,"—Vol. 59, No. 3.
"Lizards of the Sea," Vol. 59, No. 5.
"The Oddest-looking Crocodilian," Vol. 59, No. 6.

CENSUS OF REPTILES AND AMPHIBIANS

December 31, 1956

<i>Orders</i>		<i>Species</i>	<i>Specimens</i>
	AMPHIBIA		
CAUDATA	Salamanders	9	14
SALIENTIA	Frogs and Toads	20	38
	REPTILIA		
CROCODYLIA	Alligators and Crocodiles	11	58
RHYNCHOCEPHALIA	Beakheads	1	1
SERPENTES	Snakes	99	167
SAURIA	Lizards	25	57
CHELONIA	Turtles and Tortoises	59	115
VARIOUS ORDERS	RESEARCH SPECIMENS		179
	TOTALS	224	629

Summary: Orders 7; Species, 224; Specimens, 629.

COMBINED CENSUS

December 31, 1956

	<i>Species</i>	<i>Specimens</i>
Mammals	178	529
Birds	571	1,465
Reptiles and Amphibians	224	629
Totals	973	2,623

ANIMAL HOSPITAL

LEONARD J. GOSS, *Assistant Director & Veterinarian*

CHARLES P. GANDAL, *Associate Veterinarian*

THE ARRIVAL on November 1 of a female Okapi as a mate for the male that has been in the collection since 1949 was an event of major importance—not only to the collection, but also to the Veterinary Department. The latter has been intimately concerned with the animal because of its poor, almost desperate, physical condition. It is, nevertheless, good to be able to report that at the end of the year the Okapi was showing strong improvement.

The first Okapi in the New York Zoological Park, and the first in the United States, was a male that arrived on August 3, 1937, and died on September 5, 1952. The present male came on June 15, 1949, and has always been in the best of health. We had, therefore, high hopes of being able to breed Okapis, after the government of the Belgian Congo in the summer of 1956 offered us a female. Okapis have been born in European zoological gardens on several occasions, but have never been reared.

Photographs taken in the Okapi camp in the Congo showed that "Muyoni," the animal selected for us, was mature, well nourished and active. After being flown out of the Congo, she was quarantined in Germany for 60 days and on arrival in New York by ship was placed in Federal quarantine in New Jersey for an additional 30 days.

Her outward appearance on arrival in America was alarming. Despite reports that she was "doing well" in Germany, she was extremely emaciated, severely anemic, essentially without appetite and heavily infested with stomach and intestinal parasites. At our direction treatment for the parasites was instituted immediately at the quarantine station. Special care and feed were given by the quarantine attendants.

She was released from quarantine on November 1 and came directly to the Antelope House in the Zoological Park. Frequent stool analyses were made to determine the degree of parasitism, strict sanitary precautions were observed to prevent reinfection, and medication was prescribed to combat the anemia and rid the animal of parasites.

Individual doses of the anthelmintic phenothiazine were combined with free access to a salt block also containing this drug. Iron and ammonium citrate and a preparation containing multiple vitamins, minerals and antibiotics were fed daily. All available foliage, vege-

tables, fruits, hay and grain were offered. No noticeable improvement occurred for two weeks. In that interval there was complete loss of hair on large areas of the back. The Okapi licked these bare places frequently and intensely.

Other anthelmintics in the form of a copper sulfate, nicotine sulfate mixture and piperazine adipate were given. Gradually the degree of anemia lessened, appetite improved, a weight gain was noticeable and the alopecia was followed by hair growth.

Parasite ova counts continued to fluctuate between 1,240 and 2,766 ova per gram of stool. But Muyoni's general appearance at the end of the year is such that we confidently expect to be able to introduce her to her mate early in the coming summer.

It is, of course, one thing to isolate a single animal such as an Okapi, and quite another to attempt to eliminate parasites in the larger herds of herbivores that occupy the same pastures and paddocks year after year, with the attending danger of reinfection. Repeated stool examinations and treatment before there is a dangerous concentration of parasites have kept our herds of deer and sheep reasonably clean. We have now adopted the practice of allowing them free access to blocks of iodized salt in combination with an anthelmintic.

Various new piperazine compounds have proved to be valuable as vermifuges. They are readily consumed when mixed with feed and are efficacious against parasites that formerly could not be controlled without much undesirable handling of the animals. A report by Dr. Gandal on the use of piperazine adipate in the Zoological Park was published in the *Journal of the American Veterinary Medical Association*.

Experiments with some of the new tranquilizing drugs to aid in the handling of certain animals are continuing but while clinical trials have given an insight into their basic application, the experiments have not been conducted on a sufficient variety of animals to justify a report at this time.

Newly acquired psittacines are routinely blood-tested for psittacosis, or parrot fever; of 12 such tests in 1956, 6 were positive.

All of the large felines born in the Zoological Park or bought as immature animals are routinely vaccinated against feline panleukopenia (distemper). Those reared by hand and therefore deprived of the immunity they would obtain from nursing their dams are given temporary protection by serum every two weeks until they are old enough, at three months, to receive vaccine. The two tiger cubs born on June 4 and hand-reared were given seven injections each over a period of three months.

Dingoes and foxes were vaccinated against canine distemper and

hepatitis, raccoons against canine distemper and feline panleukopenia and skunks against canine distemper.

Mortality tables for the year, at the end of this report, reveal that mammal deaths were up and bird deaths down in relation to the five-year average. Phoebe, a young female Hippopotamus, was found dead in her pool on July 6 and autopsy revealed that a generalized bacterial septicemia (*Escherichia coli*) was the cause. A Polar Bear cub was born on November 9 and within two hours after birth was removed for hand rearing because of the impossibility of segregating the male. It was placed on a milk formula containing 8.6% fat, but survived for only nine days. It was found to have an intussusception involving the terminal portion of the large intestine. Buff, a male Chimpanzee, died on February 22 of acute pulmonary *Monilia* infection, the source of which was not established. Many such infections follow treatment with antibiotics, but the Chimpanzee had never received antibiotic treatments. There have been no further evidences of the disease. One of the male Lions in the African Plains exhibit succumbed to a chronic kidney degeneration. A fungus infection manifested in unusual pulmonary lesions was found in a young Harp Seal and a paper reporting this occurrence is being prepared by Dr. Goss and Dr. William Kaplan, the latter of the U. S. Public Health Service, Chamblee, Georgia.

Several times during the year it was necessary to remove by aseptic puncture a quantity of air trapped in the soft tissues just behind the head of the breeding female King Cobra. The swelling was pronounced after feeding or drinking and while the reptile gave no sign of discomfort, the swelling was noticeable. X-ray examination, made while the cobra was encased in a plastic tube, revealed no lesions. After some months, the frequency of the enlargements declined and we can only suppose that there was at least a partial repair of the opening which allowed air to enter the region.

Another interesting case was that of a Pondicherry Vulture which had lost the use of one foot because of a severed tendon. The tendon was sutured with stainless steel wire and an uneventful recovery followed.

A Grant's \times Chapman's hybrid Zebra a year and a half old, on exhibition on the African Plains during the Summer, was castrated in the fall in the hope that he will remain tractable in the coming seasons.

Surgery and treatment of birds were expedited by development of a satisfactory parenterally-administered avian general anesthetic. Dr. Gandal's work on this was published in the *Journal of the American Veterinary Medical Association*. Dr. Gandal continued a clinical-

pathological study of the incidence, classification and surgical treatment of psittacine neoplasms, in association with Dr. L. Z. Saunders, Veterinary Pathologist of the Brookhaven National Laboratory. A report will be published in 1957, and a motion picture in color is being made of the surgical technique involved in removal of the tumors.

Seasonal difficulties encountered by Dr. Gandal in drawing blood from anesthetized turtles by means of cardiac puncture have led to preliminary research, with Dr. Morris Kleinfeld of the College of Medicine of New York University, of blood volume changes in turtles as seasons and temperatures vary.

Following the vacancy in the curatorship of Mammals in June, Dr. Goss assumed interim management of the mammal collection, a responsibility he still carried at the end of the year.

VISITORS AND CONSULTATIONS. In March Drs. Woolridge and Sellers of the Animal Health Trust of England visited the Animal Hospital. A discussion of problems and techniques in dentistry, medicine and research was held with postgraduate orthodontists of the New York University College of Dentistry in April.

Consultations were held with Dr. Constantine Jeannopoulos, Orthopedic Surgeon of the New York University-Bellevue Medical Center, on the surgical approach to a problem involving malformation of feet in human children. Other consultations included work with the New York City Health Department Rabies Committee, advice on the operation of a primate colony in the New York Hospital Skin and Cancer Department, and autopsies of monkeys and psittacines for the U. S. Public Health Service.

In April Dr. Gandal and Aage Olsen, Superintendent of the Aquarium, visited the Hermosa Beach Aquarium in California and examined Elephant Seals being considered for purchase by the Aquarium.

PUBLICATIONS, LECTURES AND MEETINGS. The following papers were published in 1956.

DR. GOSS

Flexor Spasm Syndrome in the Carnivore. I. Review of Its Occurrence in the Literature as "Canine Chorea." With John R. Whittier. *American Journal of Veterinary Research*, Vol. 17, No. 65, pp. 720-732.

The Brain of the Gorilla. With Charles R. Noback. *Anatomical Record*, Vol. 124, p. 341.

DR. GANDAL

Satisfactory General Anesthesia in Birds. *Journal of the American Veterinary Medical Association*, Vol. 128, No. 7, pp. 332-334.

The Use of Piperazine Adipate in Ascariasis of Captive Zebras. *Journal of the American Veterinary Medical Association*, Vol. 129, No. 4, pp. 159-160.

Dr. Goss was reappointed consultant to the Army Medical Service of Walter Reed Army Medical Center. He gave lectures before the

New York Medico-Surgical Society, veterinary students of the University of Pennsylvania and the Bronx Medical Association.

Dr. Gandal spoke before the Stevens Club of Westchester County and addressed a group of veterinarians and agriculturists of New Brunswick College.

Meetings attended included the annual conference of veterinarians at Cornell University, a psittacosis symposium sponsored by Rutgers University, a New York City Department of Health meeting on rabies and the Schering symposium on Prednisone and Predniselone.

COOPERATIVE RESEARCH. The Animal Hospital and Veterinary staff cooperated with the following:

Bronx General Hospital
Bronx-Van Etten Hospital, Department of Pathology
Brookhaven National Laboratory
Ciba Pharmaceutical Products, Inc., Department of Veterinary Research
Columbia University Medical Center
Cornell University, Veterinary College
Cornell University, Virus Research Laboratory
Cornell University, Zoology Department
George Williams Hooper Foundation, University of California Medical Center
Harvard Medical School, Department of Anatomy
Mayo Clinic, Section of Bacteriology
New York Medical College, Department of Physiology
New York State Police Laboratory
New York University-Bellevue Medical Center, Department of Pediatrics
Ortho Research Foundation
The Rockefeller Institute for Medical Research
Rutgers University, Serological Museum
U. S. Dept. of Health, Education and Welfare, Communicable Disease Center

Seventy specimens were dispatched from the Hospital to research institutions and 39 (26 mammals and 13 birds) were turned over to the American Museum of Natural History.

PERSONNEL. The very able Mrs. Mary Ann Murphy Henriques, R.N., attached to the Animal Hospital since the summer of 1953, resigned on February 29. Both Animal Ride Tracks have been under the supervision of the veterinary staff since July. In July Riding Track Master Henry Bartels retired, and Pony Track Master Edmond Foran retired at about the same time after 13 years of service. Plans are now being made to combine all rides on the present Camel Track.

STATISTICS. The Zoological Park's First Aid Service, which operates under the direction of the Hospital Staff, handled 2,510 cases. Zoo employees furnished 16 pints of blood to the Red Cross Blood Bank, all being used as transfusions for nine employees or members of their immediate families. On December 6, 164 employees had their chests X-rayed in a mobile unit in the Zoological Park.

Birds hospitalized during the year numbered 93 for 666 days and 178 mammals were hospitalized for 5,765 days. Outpatient treatments numbered 294 mammals, 63 birds and 13 reptiles.

In the mortality tables that follow, "Total in Collection" is arrived at by adding to the census at the beginning of the year all animals acquired by purchase, exchange, gift or born alive. Animals disposed of alive by sale or exchange during the year are not deducted. No acclimatization period following birth or arrival is allowed.

MORTALITY TABLE

MAMMALS

<i>Year</i>	<i>Total in Collection</i>	<i>Died</i>	<i>Mortality Percentage</i>
1956	672	129	19.19
1955	716	131	18.30
1954	737	110	14.92
1953	733	115	15.68
1952	686	119	17.34
Totals	3,544	604	
	Average mortality for past 5 years		17.04
	Average mortality for past 20 years		18.86

BIRDS

<i>Year</i>	<i>Total in Collection</i>	<i>Died</i>	<i>Mortality Percentage</i>
1956	1,803	264	14.64
1955	1,830	316	19.50
1954	1,450	278	19.17
1953	1,728	271	15.68
1952	1,586	279	17.59
Totals	8,397	1,408	
	Average mortality for past 5 years		16.76
	Average mortality for past 20 years		16.33

PUBLICATION AND PHOTOGRAPHY

WILLIAM BRIDGES, *Curator*
DOROTHY REVILLE, *Assistant*
SAM DUNTON, *Photographer*

THERE ARE SOMETHING MORE than 33,000 negatives in the Society's photographic collection and all of them are represented by contact prints in a series of large, heavy, black albums that fill five cabinets to bursting. The system of cataloging and filing negatives and displaying the prints in albums was begun very soon after the collection was started in 1899, and we have had — and do have — little reason to change it radically. Pictures and negatives are easily and quickly found. The system works.

Nevertheless, refinements and improvements are possible in almost any system and in the past year Mrs. Reville, in charge of the Photographic Section, has made slow but continuous process in the very tedious task of reclassifying the photographs in the albums. It was, perhaps, inevitable that a photograph of a North African Ostrich should some time find its way into a group of photographs of South African Ostriches, or a Ribbon Snake stray among Garter Snakes. Labels under the photographic prints were always there to identify the picture, but often the label was not as detailed as could be desired. Mrs. Reville is changing all that. Photographs are being re-grouped where necessary, records are being scanned to add details to the identification labels — age, sex, behavior shown in the picture, and the like — and key numbers are being added to tell at a glance the size of the original negative.

Concomitantly, Mrs. Reville and our Photographic Consultant, Henry M. Lester, have worked out the design of a new negative storage room in what has, in recent years, been the mail room and mimeographing room in the Administration Building. Within the next few weeks we hope to install all our 33,000 negatives on the new shelves, under conditions of controlled temperature and humidity. At present the negatives are stored in three different locations, under widely differing conditions. There will also be plenty of room to grow, and to store many thousands of feet of 16 mm. motion picture film which now threatens to engulf the Education Department.

Mr. Dunton in 1956 produced a 22-minute film of general Zoological Park-Aquarium activities and a short picture, "The Chimpanzee Clean-up Squad." He shot 800 feet of film in the Black Hills of South Dakota, to be included in forthcoming pictures in the "Living Reptiles" series. Especially noteworthy was his coverage in stills and motion pictures of the courtship and mating of the King Cobras.

A book, "Guide to Photographing Animals," by Mr. Dunton, was published during the year and received excellent reviews. Our Staff Photographer attended the annual meeting of the Biological Photographic Association in Rochester and was elected to its Fellowship Committee.

Mr. Lester's advice and tangible help have been of the greatest value. He obtained for the Photographic Department an Eastman High Speed Motion Picture Camera and an Akeley tripod, and in addition put at our disposal a considerable amount of electronic high speed flash and time-lapse equipment. In quite a different field, the Library has him to thank for a complete bound file of *Endeavour*.

The Photographic Section added 642 negatives to the collection in 1956, all the work of Mr. Dunton, and supplied 1,617 prints to fill 361 orders.

In the Printshop, Printer Oscar Larsen turned out a large volume of labels, many of them on plastic which, because of its permanence, will gradually reduce the Printshop's chore of label reprinting.

Nineteen papers were published in *Zoologica*, in a total of 196 pages. The Sixtieth *Annual Report* of the Society was published on June 4 and the six bi-monthly issues of *Animal Kingdom* were issued.

DEPARTMENT OF EDUCATION

HERBERT J. KNOBLOCH, *Associate Curator*

JANET M. CRAWLEY, *Assistant*

MARION P. McCRAVE, *Assistant*

NEW HIGH RECORDS for school and organized group visits to the Zoological Park were established in 1956. The figures below are all new highs.

Schools and Organizations	3,048
Classes and Organized Groups	3,675
Total School/Group Attendance	171,202

May and June were again record-breaking months. May attendance by classes and other groups at the Zoological Park and the Farm-in-the-Zoo are all new records for any May and for any single month. The school/class totals for June are also greater than those for any previous June.

	May	June
Schools and Organizations.....	1,203	809
Classes and Organized Groups.....	1,421	1,102
Total School Group Attendance.....	64,090	45,298

VISUAL AIDS. Assistance was given in the production of several new motion picture films for the Annual Members' Meeting, staff use and general distribution. Special effort was devoted to filing and indexing black-and-white work print and Kodachrome original film cuts as library footage.

Users reported that 5,494 persons saw our films when they were sent out in response to 136 rental orders. Staff officers used various films 33 times and they were seen by approximately 4,050 persons. There were 13 preview requests and 48 special showings of many titles, during which time a reported 4,582 persons viewed them. Eleven prints of three subjects were sold directly from the Depart-

ment office. In March a print of "Lions at Home," produced in 1955 from the Saul Blickman African Safari footage, was submitted in the science category and sent to the Stamford Film Council for entry in the Seventh Annual Film Festival held in Stamford, Connecticut.

GUIDED TOURS. In the course of the year 106 guided tours of the Park were conducted for 3,876 students. As in past years, many tours of a special nature were conducted for a variety of classes and groups. Notable among these were 12 tours for field biology classes from the Bronx High School of Science with emphasis on the classification and natural history of the five great vertebrate groups, and several tours for classes of student and graduate in-service elementary and high school teachers attending Hofstra College in Hempstead, Long Island. Six "Behind-the-scenes" tours were given for 23 Members of the Society and their guests.

LECTURES. Fifteen lectures were given to audiences totalling approximately 500. One radio broadcast and eight television appearances were made by various Department members.

QUESTION HOUSE. The Question House opened on Sunday, April 22, and closed on Monday, November 12. It was closed 27 days during the time of operation because of rain. Recorded visitors numbered 59,393. Inquiries were as follows:

Miscellaneous animal questions	7,658
Questions requiring research	39
Platypus questions	928
Directional questions	3,156
	<hr/>
	11,781

SCHOOL LECTURE SERVICE. Miss Marion McCrane visited 84 schools and organizations and gave 257 talks with animals to 32,286 children. The service is more popular than ever and in great demand. Programs are scheduled many months in advance. Special animal programs were again presented at hospitals and other organizations.

With the assistance of the Mammal and Reptile Departments, a Dusky Coati-mundi, a Kinkajou and two snakes were acquired for Education Department use. They added much to the interest and variety of animals available for lecture purposes.

During an entire week in June, Wilbur E. Garrett of the illustrations staff of the National Geographic Society accompanied Miss McCrane on her travels to schools and hospitals. Mr. Garrett took nearly a thousand 35 mm. pictures from which a selection was made to illustrate an article about the school lecture work. The article, entitled "Zoo Animals Go to School," was written by Miss McCrane and appeared in the November issue of the *National Geographic Magazine*.

MISCELLANEOUS. Early in the year a new Magnecorder Tape Re-

corder was purchased for better recording of music for our motion picture films and animal sounds. Two new 16 mm. sound motion picture projectors were also purchased, a Bell and Howell Model 385 Specialist and a Victor Animatograph Assembly 10.

Mr. Knobloch continued as chairman of the Zoological Park's Safety Committee.

Two training courses for Girl Scout leaders were given during the year, one in the Spring on Amphibians, Reptiles and Mammals, and the other in the Fall on Birds and Insects. As in the past the leaders met once a week for a full day and the course consisted of lectures, demonstrations, film showings and guided tours. The Spring course lasted for eight weeks and the Fall course for four weeks.

The 13th and 14th In-Service courses for elementary and high school teachers, "Utilization of the Bronx Zoo in the Science Program of Elementary and Secondary Schools," were given in the Spring and Fall. Mr. Knobloch again supervised the courses for the Park and acted as Board of Education coordinator and instructor.

New Englanders again had an opportunity to visit the Zoological Park on the 11 special New Haven Railroad Zoo Trains which made 10 Saturday trips here during the Spring and Fall. They brought 11,872 visitors. Animals were exhibited on the first train of the season, originating from Springfield, Massachusetts, on April 21.

COMPTROLLER'S DEPARTMENT

HERBERT F. SCHIEMANN, *Comptroller*

ALWAYS INTERESTING to read are those statistics which tell how much of an organization's funds were expended for employees' salaries and wages and for other purposes which benefit employees. The past few years have seen marked advances in the rates of pay of the employees of this Society, as well as improvements in benefits.

Expenditures of this kind during the year 1956 were greater than ever before, principally owing to higher salary and wage rates and because of the need to provide funds for back pay for periods prior to the year 1956. Such expenditures are best exhibited by the following figures:

Salaries and wages paid employees, including paid vacations, holidays and sick leave	\$1,315,742
Paid for other employee benefits, namely premiums for group life insurance, hospitalization and surgical-medical benefits, federal old age benefits, workmen's compensation insurance, contributions to The Pension Fund, auxiliary pensions and other payments for employees' welfare	93,806

The Society was able to meet the high cost of 1956 salaries, wages and employee benefits principally from funds budgeted by the City of New York for personal service and from revenues received from Facilities sales and services. Additional funds to cover such costs were received as income on investments, dues, from governmental and other grants and from special allocations of funds by the City of New York for the payment of back wages.

Growth of the Society's Park Facilities' business continued in 1956 when, for the first time in our history, our sales at restaurants and service stands and revenues received on services exceeded a million dollars. Such receipts reached the new high of \$1,047,187. The average visitor to the Zoo in 1956 spent 48.8¢, whereas in 1955 he spent 47.3¢.

Many employees benefitted under the Career and Salary Plan in 1956. However, when the year closed, there still remained for decision the question of title reclassifications and salary adjustments for several groups of employees.

Thanks to the loyal and efficient services of the employees of the Comptroller's Department, we have been able to cope with the problem of constantly expanding duties and responsibilities. We are indeed grateful to these employees.

CONSTRUCTION AND MAINTENANCE

QUENTIN MELLING SCHUBERT, *Superintendent* (to August 25)

CHARLES B. DRISCOLL, *Superintendent* (since September 15)

FROM 1944 until his death on August 25, Quentin Melling Schubert directed the Department of Construction and Maintenance with characteristic vigor and a sense of the responsibility of the Department for the smooth functioning of all the physical aspects of the Zoological Park. Construction and improvement jobs totalling more than \$2,000,000 were supervised by him, and included such major units as the Penguin, Small Mammal and Great Apes Houses, reconstruction of the Reptile House and complete remaking of the Wildfowl Pond. He left many monuments to his memory in these and other structures.

More than \$200,000 in building repairs or construction work was completed during the year in addition to the routine maintenance and operational repairs carried out by our park forces.

Alteration of the Primate House was started with demolition of the old interior cages, heating pipes and floor. A new floor slab and

copper roof were installed. Plans for a new interior are now being prepared and it is expected the remodeled building will be ready for exhibitions in 1957.

The shallow sides and muddy bottom at the Wildfowl Pond have long been considered hazardous to the health of waterfowl frequenting the pond. Reconstruction was undertaken and included the erection of a stone and concrete perimeter wall, a new dam and overflow basin, excavation of the mud and laying of new drainage lines.

A planned program has been in progress to replace the roofs of many of our older buildings. During the past year, the Yak, Ostrich, Primate and Administration buildings received new roofs. This usually involved the repair or relocation of skylights and repair to chimneys.

The exterior of the Pheasant Aviary received a "face-lifting." The decorative wood fascia boards and trim were replaced and the entire structure was painted in pastel colors.

Concrete cage and den floors were constructed in the Lion House. To do so required removal of the old floor slab, installation of new steel beams and construction of a new brick supporting wall under the cage fronts.

In the Reptile House, the Komodo Monitors were provided with a remodeled compartment which included a pool, radiant-heated floor slab, a drying shelf and colored concrete plaster walls.

The Bird Rock enclosure was improved by the division into two parts, with a new pool added to the northern half and the entire exhibit re-landscaped with low-growing decorative shrubs intended to add some color in the Spring and Summer. The division fence between the north and south halves will be screened with climbing roses.

In addition to the more than 1,500 work orders executed, the following work was done: an aluminum hydraulic door was built and set between the African and Indian Rhinoceros stalls; about 50 new concrete pilasters were added to the balustrade on Baird Court; the interiors of the Cafeteria and African Terrace were painted, as were the Lion House cages, Fordham entrance and the Animal Hospital; new plastic labels with holders were erected in several locations; a new corral was provided at the north end of the Mountain Sheep Range for the Markhors and at the south end for the Marco Polo Sheep; timber pagodas were erected in the yards holding the large Chimpanzees and the four young Chimpanzees; approximately 2,000 square yards of paving were laid, including the paving of the Jungle Walk from Beaver Valley to Bronxdale Walk; the east Giraffe yard

was improved; a new boiler and oil burner were installed at the Farm-in-the-Zoo; mud was excavated from Heart Lake; a new system was devised for removing condensation between the panes at the Penguin House; 46 trees were planted throughout the Deer Ranges; the Rainey Gate area was landscaped and vistas were opened in several places.

FACILITIES DEPARTMENT

EDWARD KEARNEY, *Manager*

EDWARD QUINN, *Assistant Manager*

THE MODERNIZATION program started two years ago at the African Terrace restaurant was completed in the spring of 1956. As a result, this installation increased its sales by better than 20%.

At the Cafeteria it was apparent that customers spent too much time waiting for service at the cold sandwich counter. After a lengthy time study of customer movement through the cafeteria line, it was found that the line was too narrow. The railing was moved back two feet, giving plenty of room for passing, and speedier service was accomplished.

Stationary refreshment stands throughout the Zoological Park were built some fifteen years ago and under present conditions some modification was necessary. The stand at the south end of the Lion House was completely rehabilitated and to it were added a large automatic soft drink vending machine and a mechanical popcorn dispenser.

Existing refrigerated food storage facilities at the Commissary became inadequate because of the increased demand for prepared food products during the mid-summer months. One more large walk-in refrigerator was added.

The boating operation has always been profitable and within the limitations of boats now available. Rental of boats fell off slightly as compared to previous years.

The animal food vending machines have contributed greatly to the revenue produced from this commodity. The present machines and their decorations are sixteen years old, worn out and beyond repair. Last season this Department began experimenting with new and larger vending machines with much success. Two hundred and ten bags can be packed into the new machines as compared to forty-nine in the old ones.

Souvenirs are more popular than ever. Sales in 1956 topped all previous records by about 15%. Some of the items sold were 16,000 pinwheels, 25,600 balloons, 37,450 Bronx Zoo pennants, 24,440 toy propeller bombers, 6,000 deer head plaques, 6,300 cowboy straw hats, 5,600 wooden snakes and 4,020 Bronx Zoo photo booklets.

MISCELLANEOUS OPERATIONS AND SERVICES

CHILDREN'S ZOO. The Children's Zoo, finishing its sixteenth year of operation, continues as one of the major attractions in the Zoological Park under the competent supervision of Corrine Dalsgaard. It is also increasingly popular as the locale for television shows and during the year was featured on "Let's Take a Trip" and "Ding Dong School."

RIDING TRACKS. Rides at the Pony Track numbered 177,101 as compared to 178,488 for 1955.

There were 64,519 animal rides (llama and donkey) and 115,768 camel rides, making a total of 180,287 for the year as compared to 178,927 for 1955.

TRACTOR TRAINS. The seven trains carried 621,034 passengers, as against 606,268 the previous year.

FARM-IN-THE-ZOO. The Farm-in-the-Zoo was open from April 14 to November 12 under the superintendency of James Coder. The attendance of 93,902, the largest ever recorded at the Farm, included 18,450 children admitted free in conducted groups.

Mr. Coder was called upon to perform many unusual chores, among them to appear at midnight on a television show in Times Square with one of the Farm cows.

Saturday morning sheep-shearing demonstrations were initiated and proved to be extremely popular.

The Farm-in-the-Zoo was pleased to be able to stock the New York City Children's Aid Society Shelter in Chappaqua with an assortment of livestock. Dr. Gandal consulted with the shelter on the operation and construction of its exhibit.

Four cows, three calves and the feed for them were supplied by Sealtest and Breyer's Ice Cream. Children's Zoo stock, including one goat, one sheep, 10 geese, 11 ducks, four roosters and one gamecock, were quartered at the Farm during the winter. Eggs were supplied for

custard for the Duck-billed Platypuses. Farm production totals were: wool, 78 pounds; poultry, 513 pounds; lamb, 985 pounds; goats, 825 pounds; eggs, 1,082¾ dozen; pork, 3,670 pounds.

CENSUS OF FARM LIVESTOCK

December 31, 1956

Donkey	1
Belgian Horse	1
Hogs	8
Sheep	13
Goats	7
Geese	20
Ducks	18
Peacocks	1
Turkeys	13
Chickens	86
Pigeons	107
Total	<hr/> 275

THE AQUARIUM

CHRISTOPHER W. COATES, *Director*

JAMES W. ATZ, *Associate Curator*

ROSS F. NIGRELLI, *Pathologist*

MYRON GORDON, *Geneticist*

AAGE OLSEN, *Superintendent*

THE FIRST STAGE of the new Aquarium, on the ocean front at Coney Island, was finally turned over to us on September 27. The contractors had not yet finished their work and there were still some major items to be straightened out, such as the leaking 12-inch seawater intake line from the ocean, but we were at last able to enter the building and begin transforming it into an aquarium. Thus commenced the actual realization of what had been a dream for thirteen years and an approaching reality for two years more.

There was a tremendous number of things to do, not all of which had been anticipated, and one of the most difficult tasks was to establish priorities so that the institution as a whole would progress toward completion with a minimum of interference and lost motion. Among the tasks completed before the end of the year were:

Construction of 20 exhibition and 16 reserve tanks, with a total capacity of 6,800 gallons.

Laying of 2,000 feet of hard rubber or plastic piping, up to three inches in diameter.

Setting up of exhibition along south wall of main hall, consisting of five water-circulating systems (complete with tanks, reservoirs, filters, pumps, lights, heaters and aerators) in addition to the necessary electrical, water and compressed air "feeder" lines from other parts of building.

Preparation of interior of 14-ton collecting truck, including an entire 115-volt electrical system, aeration lines and water pump.

Construction of four transportation boxes, holding a total of 1,100 gallons ($4\frac{1}{2}$ tons) of water.

Waterproofing of concrete exhibition tanks of 36,000 gallons and reservoirs of 50,000 gallons total capacity.

Installation of various electrical units in laboratory, restaurant and service areas, including 450 feet of fluorescent lighting.

Erection of 650 feet of bookshelving, 700 feet of storage shelving and 970 cubic feet of locked storage cabinets.

Construction of finished-walnut backbar for souvenir counter.

Procuring and planting of windbreak of holly trees.

One of the first items on our agenda was to test the suitability of

the sea water at our doorstep in order to determine what treatment, if any, was needed to make it suitable for fishes and other marine life from such faraway places as the Indian Ocean and the Mediterranean. To this end we put into operation one of the major circulations, and before the end of the year were able to test some marine fishes in it. That the fishes thrived was the best possible indication of a satisfactory state of affairs. By the end of the year, we had put our first collecting crew into the field; three men, headed by Superintendent Olsen, had just arrived in Key West with our new truck.

Besides the routine maintenance of our exhibit in the Lion House, there were several undertakings that occupied us before we assumed responsibility for the new building. One was to arrange for the purchase of equipment and materials. Some of these, such as our 14-ton collecting truck, had to be specially designed and assembled to meet our needs while others required preliminary testing. Director Coates and Superintendent Olsen were able to bring to a successful conclusion their experiments with a new kind of tank construction that involves wood, fiber-glass and polyester resin. An improved method of glass-setting, using a neoprene preparation, was also developed. Aquaria of this type were successfully designed to meet the rather unusual requirements of our south wall exhibition area, and others as long as eight feet and holding 500 gallons of water, were also constructed of the same materials. Director Coates and Superintendent Olsen were called in to supervise the setting of 78 1¼-inch viewing glasses in the new building.

Special efforts were made to complete the 348-car parking lot ahead of the rest of the installation, and on August 1 this unit was opened at the request of the Coney Island Chamber of Commerce—an organization that has gone out of its way to make us welcome—to help relieve the acute shortage of parking facilities at Coney Island. At the same time it gave an opportunity to gain experience in the operation of a money-making facility under conditions entirely different from those to which we had previously been accustomed. We were also able to hire and assay a number of young men whom we will eventually recruit into our regular working crew. The parking field suspended operations for the season on September 8.

The Casting Pool at the Zoological Park was operated from May 19 to September 4. The New York State Conservation Department supplied 3,211 fishes of seven species to stock the pool, and at the end of the season not more than 150 were left. Mortality, other than from fishing was insignificant. We continued to service the Duck-billed Platypuses, providing them with living earthworms, crayfish and frogs.

EXHIBITIONS. Outstanding fishes acquired during the year were

imported from the Belgian Congo. Species never before represented in our collections included: *Phractolaemus ansorgi*, *Genyomys donnyi*, *Alestes longipinnis*, *Neoborus ornatus*, *Distichodus lusosso*, *D. affinis*, *D. sexfasciatus*, *D. fasciolatus*, *Synodontis angelicus*, *S. acanthomias*, *Channallabes apus*, *Anabas acutirostris*, a species of *Phago*, two of *Gnathonemus*, two of *Mormyrops* and two of *Polyp-terus*. From Dr. Walter Van den bergh, Director of the Royal Zoological Society of Antwerp, we received several specimens of *Channallabes apus*, *Alestopetersius caudalis* and *Synodontis nigri-ventris*, also from the Congo.

From Dr. Lester Aronson, Chairman of the Department of Animal Behavior of the American Museum of Natural History, we received a number of large and small specimens of *Tilapia nilotica* and *T. heudeloti*, both for exhibition and experimentation.

Because the emphasis in the First Stage of the new Aquarium will be on marine life, we drastically reduced our purchases of new fresh-water specimens early in the year. At the new building, a few marine fishes and invertebrates were obtained for the purpose of testing the sea water and circulating systems. Some of these were donated by Joseph Mintzer. In anticipation of the opening of our new building, we purchased a pair of young Atlantic Walruses which arrived on October 9. We have also purchased four specimens of the Northern Sea Elephant, a 13-foot male, a somewhat smaller pair and a baby male. These are at present being held for us by Marine Enterprises, Inc., at Hermosa Beach, Calif.

From time to time we have exhibited new and colorful varieties of fishes that have been developed by Dr. Gordon in our Genetics Laboratory. The latest of these, a *Xiphophorous helleri* \times *X. montezumae* hybrid called the Red Jet, created interest among tropical fish fanciers when it was placed on exhibition.

RESEARCH. Chemical analysis of Holothurin, the toxic substance from a West Indian sea-cucumber that was discovered by Dr. Nigrelli, is being intensively carried out by Dr. Robert L. Ledeen, assisted by Judith E. Wax and in consultation with Dr. J. D. Chanley, Research Chemist of the Department of Chemistry of Mount Sinai Hospital. This work is supported by a grant to the New York Zoological Society of \$5,994 from the Damon Runyon Memorial Fund and by a joint grant to Mount Sinai Hospital and the Society for \$12,000 (covering a two-year period). One of the purposes of this research is to correlate the chemical structure of Holothurin with its toxicity and anti-tumorous properties. The latter are being tested by Father T. D. Sullivan of St. Michael's College, by means of an ascites tumor of mice. The whole program is under the direction of Dr. Nigrelli and Dr. Harry Sobotka of Mount Sinai Hospital.

The origin of the neoplastic disease, melanoma, has been one of the focal points of the scientific research of our Genetics Laboratory ever since its establishment. Since the fish hybrids bred there are the only experimental animals in which spontaneous melanomas can be produced at will, they have provided a unique opportunity to study the processes leading to the appearance of this pigmented cancer, which is so malignant in man. Dr. Gordon, who directs the activities of the Laboratory, has now proposed a working hypothesis that explains the cellular origin of melanoma in fishes. This crystallization of thought traces the origin and development of pigment cells and indicates that a process of arrested, incomplete differentiation is the essential feature leading to the atypical, cancerous growth of these cells.

In support of the work of the Genetics Laboratory on "Genetics and Correlated Studies of Pigment and Thyroid Cell Growth," we received a grant of \$15,040 from the National Cancer Institute, National Institutes of Health of the U. S. Public Health Service. Miss K. France Baker of the Laboratory was awarded a U.S. Public Health Pre-doctoral Fellowship that will enable her to complete her studies on the normal and abnormal thyroid tissue of platyfishes and sword-tails. This research is being performed principally under the direction of Drs. Aubrey Gorbman and L. G. Barth of Columbia University.

A two-year grant totalling \$7,500 was received in the middle of the year from the National Science Foundation for the support of "A Biological Synthesis of the Poeciliid Fishes," which is being undertaken by Dr. Gordon and Donn E. Rosen of the Genetics Laboratory. This will consist of a comprehensive treatment of the systematic and evolutionary relationships among the fishes of the Family Poeciliidae on which the techniques of anatomy, histology, animal behavior, genetics and ecology are all being brought to bear. Nearly 4,000 complete skeletons, representing about 75% of the known poeciliids, have been prepared to provide a firm foundation for the anatomical aspects of the problem. The first stage of this analysis-synthesis consists of a taxonomic revision of the platyfishes and swordtails and this has now proceeded to the point where the relationships among the various species and subspecies have been almost entirely worked out. In addition, a new interpretation of the relation between the two poeciliid genera, *Phallichthys* and *Carlinhubbsia*, has been developed by Mr. Rosen in collaboration with Dr. Reeve M. Bailey of the University of Michigan.

In January Dr. Gordon travelled to Hawaii to study the platyfish and swordtails that have been planted in the waters of Oahu. It was of particular interest to determine whether these fish, which are

introgressive hybrids, were interbreeding under feral conditions. No obvious signs of recent hybridization were apparent, but a final decision awaits the detailed statistical study of the large sample of fish collected by Dr. Gordon. While in Hawaii, he was the guest of the University of Hawaii.

Our long-term program of the investigation of bio-electrical phenomena, using the Electric Eel as the principal experimental animal, has been continued. Over the years, a number of different specialists have made contributions to this, with Dr. David Nachmansohn of the College of Physicians and Surgeons and Director Coates providing the necessary continuity and general direction. Further studies on the electrical properties of the electroplax, the individual electrical unit of the electric organ, were carried out, emphasis being placed on the effects of potassium. Potassium-free solutions were found to increase the resting potential of the eel's electroplax, and it was determined that the lack of this substance greatly increased the electrical resistance of the membrane. The presence of potassium, on the other hand, sharply reduced the resistance of this structure.

Director Coates tested the electrogenic properties of seven species of mormyrid fishes and discovered that all of them produce small, regularly fluctuating currents. This situation parallels the one he had previously shown to exist among the gymnotid eels and it provides one of the most remarkable instances of convergence that has come to light among fishes. The Families Mormyridae and Gymnotidae are not at all closely related — in fact they belong to separate Orders —and yet both of them exhibit striking similarities in body form, behavior and, as is now known, electrophysiology.

With Morton Padnos and Dr. Sophie Jakowska, Dr. Nigrelli has continued to study the biology of a strain of *Colpoda maupasi*, a ciliate protozoan. The most recent work has concerned the ageing process and the modification of its life cycle by cold.

Under the direction of Dr. Nigrelli, Henry Vogel of the New York City Department of Health completed a nutritional, serological and taxonomic study of tuberculosis organisms affecting fishes and other cold-blooded vertebrates. Four of the strains analyzed by him had previously been isolated by Dr. Nigrelli in our laboratory. An important by-product of this investigation has been the development of a new medium for the culturing of the organism responsible for human tuberculosis.

Since 1948, Dr. Sophie Jakowska has pursued studies in comparative hematology, especially that of fishes and amphibians, in both health and disease. Most of her work has been based on material made available through our laboratory. Dr. Jakowska has now had

published a summary of her observations on teleost fishes, in French, by the *Revue d'Hématologie*. This critical review attempts to establish a uniform terminology for piscine hematology, which suffers not only from a multiplicity of names but also from the misapplication of mammalogical terminology.

The publication, through ordinary channels, of "The Physiology of the Pituitary Gland of Fishes," the exhaustive review by Dr. Grace E. Pickford and Mr. Atz, was found to present serious difficulties because of the heavy cost of printing and publishing and the long delay between completion of manuscript and appearance of finished volume. The Zoological Society therefore undertook to publish the book by photo-offset. Funds to meet the cost of publication had previously been allocated by the Society, but it was nevertheless necessary to obtain additional money. This was forthcoming from the Mearl Corporation of New York City and from Mr. Louis A. Atz. The review will be 637 pages long and includes about 250 pages of tabular material. Publication is scheduled for the spring of 1957.

The cooperation of the Aquarium's laboratory has been extended to the Student Biology Research Group at the College of Mount St. Vincent under the direction of Dr. Jakowska. Several research projects have been successfully completed and these were presented at the Eastern College Science Conference, held at Temple University in April.

COLLABORATION. Much of the altruism and cooperativeness that exists among scientific and educational institutions has a sound practical basis. In fields where many things and services cannot be priced, reciprocity naturally assumes great importance. We therefore find that the bulk of our relationships with other institutions and their associated personnel consists of doing and asking favors.

We have always extended ourselves in our efforts to help those who are planning to build public aquariums or water systems to maintain aquatic animals in captivity, for, since only people like ourselves can provide the necessary know-how in so highly specialized a field, there are times when we have no choice but to appeal to sister institutions for aid. During the year, we provided technical advice and assistance toward the planning, construction or operation of public aquariums at New Delhi, Lahore, Noumea, Stockholm, Vancouver, Quebec, Boston, New Haven, Philadelphia, Mayaguez, Puerto Rico and English Harbour, Antigua. Director Coates acted as consultant for a privately financed oceanarium that was planned for Freeport, Texas. Information was given to Yale, Minnesota and Columbia Universities and the Institute of Fisheries Research of the University

of North Carolina, for tanks or water circulations to keep experimental aquatic specimens.

Our long-inbred strain of Platyfish has now been established at the Department of Pathobiology of The Johns Hopkins University School of Medicine, and Electric Eels were provided the Zoophysiologisches Institut der Universität Tübingen. Through the use of our fish-storing and shipping facilities in the Lion House, we were able to make possible the introduction of two species of Tilapia from the Congo to the Hawaiian Islands and a species of Buffalo Fish from Arkansas to Israel. It is expected that these fishes will prove valuable additions to the fish fauna of the countries concerned.

Close cooperation with the Department of Marine and Aviation, New York City; the Federal Security Agency, Pure Food and Drug Administration; the Department of Health, New York City; the Fish and Wildlife Service, Department of the Interior; and the Conservation Department, State of New York, has been maintained.

Collaborators working with the Aquarium during the year were:

DRS. DAVID NACHMANSOHN, MARIO ALTAMIRANO, IRWIN B. WILSON, WALTER SCHLEYER and MAX EISENBERG, Department of Neurology, College of Physicians and Surgeons, Columbia University.

DRS. ERNEST SCHOFFENIELS, University of Liège and Department of Neurology, College of Physicians and Surgeons, Columbia University.

DRS. HARRY A. CHARIPPER, MILAN J. KOPAC and GLADYS M. MATEYKO, New York University.

DR. AUBREY GORBMAN, Barnard College, Columbia University.

DR. SOPHIE JAKOWSKA, College of Mount St. Vincent, New York.

MISSSES FRANCESCA R. LAMONTE and PRISCILLA RASQUIN, DRs. CHARLES M. BREDER, JR., LESTER R. ARONSON and T. C. SCHNEIRLA, American Museum of Natural History.

DR. HORACE W. STUNKARD, American Museum of Natural History and New York University.

DR. DANIEL MERRIMAN and GRACE E. PICKFORD, Bingham Oceanographic Laboratory, Yale University.

DRS. CARYL P. HASKINS, SEYMOUR HUTNER, PAUL A. ZAHL, LUIGI PROVASOLI and JOHN McLAUGHLIN, Haskins Laboratories, New York.

DRS. HARRY SOBOTKA, J. D. CHANLEY and HERMAN BAKER, Department of Chemistry, Mount Sinai Hospital.

DR. HAROLD SPARROW, Brookhaven National Laboratory, Long Island.

DR. DOUGLAS G. HUMM, University of North Carolina.

DR. T. D. SULLIVAN, S. S. E., St. Michael's College, Winooski, Vt.

DR. SYLVIA GREENBERG, Damon Runyon Memorial Fellow, New York University.

DR. F. N. GHADIALLY, The University of Sheffield.

DR. REEVE M. BAILEY, Museum of Zoology, University of Michigan.

DR. PATRICIA KADOW, College of St. Elizabeth, Morristown, N. J.

DR. OLGA BERG, University of Rochester School of Medicine.

IRWIN ALPERIN, Conservation Department, State of New York.

MORTON PADNOS, Protista Research Laboratory, New York.

HUGH GORDON, Columbia University.

DR. HELEN VISHNIAC, Yale University.

At the Graduate School of Arts and Sciences of New York University, Dr. Nigrelli conducted courses on fish diseases, fishery biology and ichthyology and Dr. Gordon one on fish genetics. Under Dr. Nigrelli's sponsorship, Henry Vogel received the degree of Doctor of Philosophy.

PUBLICATIONS. The following scientific and popular articles by members of the staff appeared during the year:

MR. COATES

La Quimica del Acuario. *Acuario* [Havana], Vol. 2, No. 3, p. 61; No. 4, p. 89. Astyanax an Ancestor of Mexican Cave Fish, *A. bimaculatus*, *A. fasciatus*, *A. mexicanus*. *Fish Culturist*, Vol. 35, No. 6, p. 42.

Chaperi Is Handsome and Easy to Breed. *Fish Culturist*, Vol. 36, No. 3, pp. 20-21.

The Kick of an Electric Eel. Pp. 92-97 of "Introductory Exposition," edited by Agnes Colton and Frances Huston. Pacific Books, Palo Alto.

Weekly column on tropical fish in the *New York World-Telegram and Sun* continued for twenty-sixth year.

MR. ATZ

Silver Dollars. *Aquarium Journ.*, Vol. 27, No. 1, pp. 3-5, 31.

In a Way, the Lungfish Is a Missing Link. *Animal Kingdom*, Vol. 59, No. 2, pp. 57-59.

Congo Bonanza. *Aquarium Journ.*, Vol. 27, No. 5, pp. 171-177.

Our Upside Down Catfish Grow Up. *Animal Kingdom*, Vol. 59, No. 5, pp. 141-143.

New York Aquarium's Upside Down Catfish Grow Up. *Aquarium Journ.*, Vol. 27, No. 12, pp. 429-433.

DR. NIGRELLI

Babesiosoma Gen. Nov. and other Babesioids in Erythrocytes of Cold-blooded Vertebrates. With Sophie Jakowska. *Ann. N. Y. Acad. Sci.*, Vol. 64, No. 2, pp. 112-127.

Antitumorous Action of Biologics of Marine Origin. I. Survival of Swiss Mice Inoculated with Krebs-2 Ascites Tumor and Treated with Holothurin, a Steroid Saponin from the Sea-cucumber *Actinopyga agassizi*. With T. D. Sullivan. *Proc. Amer. Assoc. Cancer Res.*, Vol. 2, No. 2, p. 151. Abstract.

Tetrahymena as Pathogenic Epibiont in Fishes and Urodeles. With Sophie Jakowska and Morton Padnos. *Journ. Protozoology*, Vol. 3, Suppl., p. 10. Abstract.

Studies on Isolated, Living Cells of a Neoplasm of *Iridio bivittata*. With Gladys M. Mateyko. *Anat. Rec.*, Vol. 125, No. 3, pp. 579-580. Abstract.

Blood Studies on Pneumectomized and Splenectomized Newts (*Diemyctylus viridescens*). With Sophie Jakowska and Celi Philippi. *Anat. Rec.*, Vol. 125, No. 3, p. 645. Abstract.

Effects of Diet Containing Bentonite on the Cichlid, *Tilapia macrocephala*. With Sophie Jackowska. *Anat. Rec.*, Vol. 125, No. 3, pp. 655-656. Abstract.

DR. GORDON

Two Opposing Sex-determining Mechanisms, One XX-XY, the Other WY-YY, in Different Natural Populations of the Platyfish, *Xiphophorus maculatus*. *Atti del IX Congresso internazionale di Genetica*, Parte II, pp. 960-964.

Hereditary Differences in Seven Natural Populations of the Platyfish, *Xiphophorus maculatus*. *Proc. XIV Int'l Congress Zool.*, Copenhagen 1953, pp. 172-176.

- Progress Report on Genetic and Correlated Studies on Normal and Atypical Pigment Cell Growth. *Acta Union Internationale Contre le Cancer*, Vol. 12, No. 4, pp. 465-470.
- The Purple Spike-tail Platy from Mexico's Rio Soto La Marina System. *Tropical Fish Hobbyist*, Vol. 4, No. 3, pp. 6-11, 40-41.
- Fighting Fish in a World of Amazons. *Aquarist and Pondkeeper*, Vol. 20, No. 11, pp. 229-230.
- Propagating Human Viruses in Aquarium Fish Embryos. *Aquarium Journ.*, Vol. 27, No. 2, pp. 68-69.
- "Siamese Fighting Fish. A Guide to the Breeding of the Siamese Fighting Fish, *Betta splendens*." T. F. H. Publications, Jersey City. 32 pp.
- Who Created the Bright Colored, Veiltailed Bettas? *The Aquarium*, Vol. 25, No. 6, pp. 200-204.
- The Betta's Dilemma. *Aquarium Journ.*, Vol. 27, No. 6, pp. 230-231.
- Evidence for Complete Sex Reversal in Fishes. *Aquarist and Pondkeeper*, Vol. 21, No. 4, pp. 66-69.
- Book Review. The Neon Rainbow. *The Aquarium*, Vol. 25, No. 7, pp. 228-230.
- Decorative Fighting Fish in Research. *Aquarist and Pondkeeper*, Vol. 21, No. 5, p. 110.
- Swellfish Stories. *The Aquarium*, Vol. 25, No. 8, pp. 266-274.
- "Swordtails. The Care and Breeding of Swordtails." T. F. H. Publications, Jersey City. 24 pp.
- "Platies as Pets. A Guide to the Selection, Care and Breeding of Platies." T. F. H. Publications, Jersey City. 24 pp.
- From Lake Peten, Guatemala Platyfish and Mollies. *Aquarium Journ.*, Vol. 27, No. 9, pp. 309-315; No. 10, pp. 349-351.
- The Red Jet Swordtail. *Tropical Fish Hobbyist*, Vol. 5, No. 1, pp. 6, 8, 38-39, 42-43, 46.
- Sex Changes in Fishes, *Aquarist and Pondkeeper*, Vol. 21, No. 7, p. 160.
- Influence of Hormones on Coloring and Behavior in Fishes. *The Aquarium*, Vol. 25, No. 11, pp. 365-370.
- An Intricate Genetic System that Controls Nine Pigment Cell Patterns in the Platyfish. *Zoologica*, Vol. 41, No. 18, pp. 153-162.
- Cytology and Cytochemistry of Melanoma Cells. With Sylvia S. Greenberg and M. J. Kopac. *Ann N. Y. Acad. Sci.*, Vol. 67, Art. 4, pp. 55-122.
- Tissue Culture Studies of Fish Melanomas. With Sylvia S. Greenberg and M. J. Kopac. *Anat. Rec.*, Vol. 124, No. 2, p. 488-489. Abstract.

PERSONNEL. The retirement of Thomas Callahan, after 28 years of service, has left a serious gap in our ranks.

Director Coates was appointed Chairman of the newly established standing committee on Aquaria of the American Society of Ichthyologists and Herpetologists. He also served on the Aquariums Committee of the American Association of Zoological Parks and Aquariums. Mr. Coates was reappointed Research Associate in Fishes at the American Museum of Natural History.

Dr. Nigrelli served as President-elect of the New York Academy of Sciences and took office on Jan. 1, 1957. As Conference Chairman, he organized an unusually successful symposium on "Modern Ideas on Spontaneous Generation" which was jointly sponsored by the Academy and the A.A.A.S. and held during the meetings of the

latter society in New York. During the year, Dr. Nigrelli acted as Consulting Editor for an Academy publication on certain protozoan diseases of man and animals.

Dr. Nigrelli was elected representative of the American Society of Zoologists on the Board of Trustees of the American Type Culture Collection. He also served as representative of the Society of Protozoologists on the council of the A.A.A.S. Dr. Nigrelli was reappointed Scientific Consultant of the Bingham Oceanographic Laboratory.

Dr. Gordon presented a paper, by invitation, to the International Congress of Developmental Biology, held at Brown University. He was appointed representative of the American Society of Ichthyologists and Herpetologists on the council of the A.A.A.S., and was reappointed Research Associate in the Department of Animal Behavior of the American Museum of Natural History. At the meeting of the American Society of Ichthyologists and Herpetologists, Mr. Rosen was awarded first prize in ichthyology among the Frederick H. Stoye Awards for best student papers. This is the second time that Mr. Rosen has been awarded this prize.

Members of the staff gave papers and lectures and participated in discussions at the following institutions and places:

International Congress of Developmental Biology, Providence.
American Association for Cancer Research, Atlantic City meeting.
American Society of Zoologists, Storrs meeting.
Society of Protozoologists, Storrs meeting.
Radiation Research Society, Fourth Annual Meeting, Chicago.
Tissue Culture Association, American Association of Anatomists, Milwaukee meeting.
American Society of Ichthyologists and Herpetologists, Higgins Lake meeting.
Symposium on Perspectives in Marine Biology, Scripps Institution of Oceanography, La Jolla.
Symposium on Aquaria, American Society of Ichthyologists and Herpetologists, Higgins Lake.
Conference on the Procurement of Animals from Nature, Institute of Animal Resources, National Research Council, National Academy of Sciences, Washington, D. C.
Systematics Discussion Group, American Museum of Natural History.
Department of Zoology, Stanford University.
Department of Zoology, University of California at Los Angeles.
Seminar in zoology, California Institute of Technology.
Seminar in zoology, University of Hawaii.
New York Association of Teachers of Biological Sciences.
Fourth annual Alvin Seale Lectureship, San Francisco Aquarium Society.
12:45 Luncheon Club of South Brooklyn.
Kiwanis Club of Boro Park, Brooklyn.
Honolulu Aquarium Society.
The Aquarium Society of New York.
New Jersey Aquarium Society.
Bergen County Aquarium Society.

CENSUS OF THE AQUARIUM

December 31, 1956

CLASS PISCES—FISHES

SUBCLASS TELEOSTOMI—Ray-finned Fishes

<i>Orders</i>		<i>Species</i>	<i>Specimens</i>
PROTOSPONDYLI	Freshwater Gars	1	1
CLADISTA	Lobefins	2	2
ISOSPONDYLI	Herring, Salmon, Pikes	5	10
OSTARIOPHYSI	Minnows, Characins, Catfishes ...	75	175
APODES	Eels and allies	1	1
CYPRINODONTES	Top-minnows	6	1
PERCESOCES	Silversides, Mulletts and allies ...	1	1
PERCOIDEI	Spiny-rayed Fishes	3	6
LABYRINTHICI	Fighting Fishes and allies	8	20
CHROMIDES	Demoiselles and Cichlids	10	275

SUBCLASS CHOANICHTHYES—Fringe-finned Fishes

DIPNEUSTI	Lungfishes	3	22
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CLASS REPTILIA—Reptiles

CHELONIA	Turtles and Tortoises	1	1
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TOTALS	116	515
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Summary: Orders 12; Species, 116; Specimens, 515.

DEPARTMENT OF TROPICAL RESEARCH

WILLIAM BEEBE, *Director Emeritus*

JOCELYN CRANE, *Assistant Director*

HENRY FLEMING, *Entomologist*

ROSEMARY KENEDY, *Research Assistant*

GENERAL ACTIVITIES. In 1956, members of the Department spent eight months in the field, divided into two expeditions, the Fifty-fifth with headquarters at Simla, and the Fifty-sixth to the South Pacific.

FIFTY-FIFTH EXPEDITION. On January 4 the staff left New York on the *Alcoa-Pegasus*. The itinerary included La Guaira, Puerto Cabello, Maracaibo, Aruba and Curacao.

On January 22 the staff arrived at Simla to find the houses in first-class condition, and the gardens and grounds at the peak of perfection, thanks to the gardener manager, Jogie Ramlal. The generator, refrigerators and cars were in full running order as a result of the work of Mr. Fleming, who had reached Simla by plane a few days earlier.

The jungle on adjoining slopes had again gotten out of hand, and required the cutting of a number of full-grown trees.

CONSTRUCTION. The major construction event of this expedition was the erection of a new Insectary, made of aluminum and bronze. Its life is unlimited, for it is impervious to termites and to rust, and is strong enough to withstand the weight and stress of climbing vines and other tropical vegetation. It is a gift from the Aluminum Corporation of America, the Alcoa Steamship Company and President William C. White. Our deepest gratitude goes to the donors. The wire structure is 24 by 33 feet long, by 12 feet in height. Within one month, it had proved its one hundred per cent. efficiency. Orchids, bromeliads and various food plants thrived and the butterflies went through their courtship, mating and egg-laying with perfect success. Henry Fleming designed it, and superintended the erection and wiring.

TRIPS. Two trips were made to the Nariva Swamp in a successful search for and capture of Anacondas. Also, two trips to the Oropouche Caves for blind fish and oil-birds.

VISITORS. Visitors during the Simla season of 1956 form a long and distinguished list. Among them were President William C. White and Vice-president Frank Bell of the Alcoa Steamship Company; Dr. P. W. Bridgman, a Nobel prize winner in physics; and Drs. William Foley and A. E. Hill. Dr. Libbie Hyman of the American Museum spent a

week studying Platyhelminthes. Other visitors were Dr. and Mrs. Clay Frick, Dr. and Mrs. Alsop, Mr. Edwin Verity of Disney Films, and our old friend, Mr. James Simon.

The usual symposia were held, attending students from the Imperial College hailing from England, Scotland, Ireland, Malaya, the Gold Coast and New Guinea. The Department entertained the officers and members of the long-established Trinidad Field Naturalists' Club. We especially enjoyed Dr. Waldo S. Schmitt, Dr. Fenner A. Chace, Jr., and Dr. Albert C. Smith, all from the United States National Museum. The latter spent a week botanizing. Zoological Society Trustee John H. Phipps spent days watching birds through his magnificent high-powered monocular.

Most welcome were Dr. and Mrs. Tee-Van. They spent some time at Simla and returned after a short visit to British Guiana. Among other guests were Dr. Melville Bell Grosvenor, Vice-president of the National Geographic Society, and Mrs. Grosvenor. Arrangements were made for articles for the magazine by William Beebe and Jocelyn Crane, and a grant of \$3,500 was made by the National Geographic Society for future work of the Department. Mr. Courtenay Hitchins, editor of the *Trinidad Guardian*, also was a visitor.

SPECIMENS SENT TO ZOO. One Anaconda, one Cooke's Tree Boa and one Trinidad Bush Snake were sent up to the Park. In addition a number of frogs, lizards and snakes were donated to Dr. Oliver to take north when he terminated his stay at the Simla Station. Besides the herpetological material a five-inch *Peripatus* was sent north for exhibition.

SCIENTIFIC ACTIVITIES OF THE STAFF. Henry Fleming, in the intervals of his overseeing of maintenance and construction, found time to continue his work on the systematics of the day-flying moths, Ctenuchidae.

A full-time job was that of Rosemary Kenedy in finding the eggs of Ctenuchidae and rearing the larvae, thus completing unknown life-histories. The Wild Heliotrope attractant proved to be a major help in obtaining rare species of these day-flying moths. Miss Kenedy was also in charge of photography at the Station.

Thanks to the new Insectary, Miss Crane reports that our studies of tropical insect life are being greatly facilitated. The gaps in knowledge of butterflies are being rapidly filled in. We are learning in detail more about their roosting habits, feeding, courting, egg-laying and the vital uses of their scents and colors. Through comparing, day by day, the behavior patterns of closely related species, we are working out the complex mosaic of bits and pieces that make up their activities, thereby gaining clues to their evolution.

Work was continued by William Beebe on comparative adaptations of the birds of Singapore, Trinidad and Long Island, and also on the relative values in systematic keys of such characters as Song, Diagnostic Movements, Sociability, Nest and Eggs, Juvenile Plumage, Food Finding, Defence and Facies.

INVESTIGATORS. Dr. David Snow, assistant to Dr. Lack of Oxford, devoted six weeks to the study of the courtships of three species of manakins. He also made notes on 135 species of birds. Tentative arrangements were made for his return next year as Resident Naturalist of the Simla Station.

Dr. James A. Oliver, Curator of Reptiles at the Zoological Park, studied and collected reptiles at the Station for the period of a month. His most notable success was persuading a young Bushmaster to feed on very young mice, thereby laying the foundation for keeping these serpents alive in our Zoo. Mr. Woodbridge Williams, official photographer of the National Geographic Society, spent six weeks at Simla working with Miss Crane, making detailed color films for use in Miss Crane's article. The results proved to be outstanding.

FIFTY-SIXTH EXPEDITION. This consisted of a major field trip to the South Pacific by Jocelyn Crane, the second under her five-year grant by the National Science Foundation for a world-wide study of Fiddler Crabs. It occupied two and a half months, and included Hawaii, Fiji, Tahiti, Raiataea, Bora Bora, Australia and the Philippines. The journey was made by air, supplemented locally by trains, automobiles and small boats.

Representative series of specimens were collected in association with extensive written data on behavior and ecology, and with 2,900 feet of 16 mm. color motion picture film. The number of apparently good species of *Uca* taken totals seventeen, or about twenty-seven according to current nomenclature. Fifteen of the seventeen species were displaying at the time of the study, in at least one part of their visited range. Other genera in the family are also well represented in the new collections.

While detailed results of the behavior studies must await analysis of the motion picture film, and all morphological systematic conclusions must be deferred, two major results of the South Pacific trip may be mentioned now. First, two species of *Uca* reaching mid-Pacific show characteristics intermediate between those of species found in the Indo-Pacific region and in the Americas; their behavior is especially helpful in indicating heretofore missing steps in the evolution of display and, in correlation, in clarifying phylogenetic obscurities.

Second, in combination with the results of the Southeast Asia trip, three exceptionally far-ranging species of *Uca* have been studied

along with a number of others of moderately wide distribution. It is now evident that nowhere in their ranges, even on peripheries separated by more than 8,000 miles, do they show macroscopic geographic variation in either display patterns or habitat preferences.

CHANGES IN STAFF. Miss Rosemary Kenedy left the Department as of September 1. Miss Barbara P. Young has been taken on as Field Assistant for the present Expedition.

GIFTS AND GRANTS. These included the second installment of the grant from the National Science Foundation for a world study of Fiddler Crabs; a grant from the National Geographic Society for work of the Department; a gift from Jack S. Dunning for photographic work; a twenty-power monocular from John H. Phipps.

EXHIBITS. The exhibit of "Dangers of the Jungle and Ways of Meeting Them" in the Heads and Horns Museum in the Zoological Park has at last been closed. A color film of Fiddler Crab behavior, taken by Jocelyn Crane in Malaya, was shown at the Annual Meeting of the Zoological Society.

RELATIONS WITH OTHER INSTITUTIONS. A wholesale distribution was made from the Zoological Park Laboratory of the Department. This consisted of duplicates and unstudied collections made on various expeditions. The entire plankton collection of both oceans went to the collection of the Lamont Geological Laboratories and the collection of Bermuda fish to the United States National Museum; the duplicate collection of Pacific mollusks to the American Museum of Natural History. The collection of deep and shallow water fish had already been presented to Scripps Institution of Oceanography at La Jolla.

CONTRIBUTIONS, 1956

964. A New Species of Frog from Kartabo, British Guiana. Doris M. Cochran. *Zoologica*, Vol. 41, No. 2, pp. 11-12.
965. Geographic Variations in the Respiratory Metabolism and Temperature Coefficient in Tropical and Temperate Forms of the Fiddler Crab, *Uca pugnax*. Richard E. Tashian. *Zoologica*, Vol. 41, No. 6, pp. 39-47.
966. Flying Reptiles, M. W. F. Tweedie. Introduction by William Beebe. *Animal Kingdom*, Vol. 59, No. 1, pp. 11-15.
967. The Dance of the Manakins. David W. Snow. *Animal Kingdom*, Vol. 59, No. 3, pp. 86-91.
968. In Malaya, Looking for Clues to Evolution. Jocelyn Crane. *Animal Kingdom*, Vol. 59, No. 5, pp. 130-136.
969. *Neonesthes gnathoprora*, A New Species of Astronesthid Fish from the Atlantic Ocean. Daniel M. Cohen. *Zoologica*, Vol. 41, No. 10, pp. 81-83.
970. A Discussion of the Deep-sea Eel Genus *Avocettinops*, with Notes on a Newly Discovered Specimen. James Bohlke and Frank S. Cliff. *Copeta*, 1956, No. 2, pp. 95-99.
971. Annual Report of the Department of Tropical Research, for 1955. William Beebe, pp. 47-52.

MEMBERSHIP

DONALD T. CARLISLE, *Membership Chairman* (to April 5)

GORDON CUYLER, *Membership Secretary*

VILMA CHRISTIAN, *Membership Supervisor*

DOROTHY MORESCHI, *Membership Clerk*

THE UNTIMELY DEATH in April of Donald Thompson Carlisle, Vice-president of the Society and membership Chairman, was a serious loss. He came to the Society in 1945 and launched a drive in 1946 that tripled our membership. His joie de vivre, humor and dedication to the Society's best interests have left an indelible impression.

Growth of the Society's membership must continue to be one of our prime objectives. The point has been reached at which membership revenue more than covers membership services and promotion expenses and the surplus represents a welcome addition to the Society's general income. More memberships will mean increased net income.

The Department was reorganized in 1956 to combine membership promotion activities and membership services in one office in the Zoo. Although this concentration makes for increased efficiency, there are obvious limitations in the fact that three persons are now doing the work formerly done by five.

Four major mailings to potential supporters, active membership promotion in the Zoo and many letters to persons suggested by members and by staff officers resulted in the acquisition of 452 new members. Deaths, resignations and memberships dropped because of non-payment of dues cost 298 members, thus giving us a net gain of 154. Compared with 1955, when the net gain was only 4, this is an encouraging record. One membership promotion circular, designed to interest physicians and dentists, was especially successful. Revenue from membership dues was \$48,820, the largest income ever realized from this source.

Saturday Morning Tours of the Zoo for members were initiated in the Spring and the experience gained in the operation of this service should prove valuable in 1957 in making them even more attractive to members. We expect them to take a place with such membership privileges as the Spring Garden Party and *Animal Kingdom* as a means of sustaining a lively interest in the Society's affairs and decreasing the number of members who resign or allow membership to lapse.

The Membership Committee has Miss Jocelyn Crane of the Department of Tropical Research to thank for a most interesting Newsletter written in the Far East and mailed to all members from Fiji, in the course of her research on fiddler crabs.

THE CONSERVATION FOUNDATION

The 1956 Annual Report of The Conservation Foundation, the affiliate of the New York Zoological Society in conservation work, may be had upon request from the Foundation's offices at 30 East 40th Street, New York 16, N. Y.

JACKSON HOLE BIOLOGICAL RESEARCH STATION

SPONSORED BY THE NEW YORK ZOOLOGICAL SOCIETY
AND THE UNIVERSITY OF WYOMING

L. FLOYD CLARKE, *Director*

NINETEEN FIFTY-SIX marked the third highly successful summer of the Station's operation under the sponsorship of the New York Zoological Society and the University of Wyoming. The splendid support of the cooperating institutions and the over-all excellency of the research work at the Station resulted in the most productive summer yet.

RESEARCH PROJECTS. The following research projects were carried out at the Station during the summer.

Margaret Altmann—A study of social behavior patterns in Moose of Wyoming. This was part of a long-range program of research on social behavior of big game animals. This research will be continued and expanded under a project for study of comparative behavior of ungulates. Supported by the National Science Foundation.

Kenneth B. Armitage—Ecology and social behavior of the Yellow-bellied Marmot. This project was initiated during the summer of 1955. Supported by the New York Zoological Society.

George T. Baxter and L. Floyd Clarke—Effects of sewage effluent on the ecology of Swan Lake. This study was initiated in 1954 and continued through the summers of 1955 and 1956. The study will be continued.

Alan Beetle—Sagebrush-grass competition, a long-range project supported by the Experiment Station Inter-regional Research Funds granted to the University of Wyoming. Factors affecting the ecology of the Teton National Forest, a new project supported by the Wyoming Natural Resources Board. Both are five-year projects initiated during 1956.

Ralph F. Honess—Ecology of cattle helminth worms. Supported by the Wyoming Agricultural Experiment Station. Initiated in 1956, will continue five years.

Kenneth R. John—Population dynamics of the Utah chub, *Gila atraria*, in Two Ocean Lake. Initiated the summer of 1956; will be continued. Supported by the National Science Foundation.

Garth Kennington—Metabolic differences associated with altitude. This project was initiated in the summer of 1955. Supported by the New York Zoological Society.

Norman C. Negus—Life history of *Microtus richardsoni macropus*, a new project to be continued next summer. Supported by the New York Zoological Society.

Glenn A. Noble—Intestinal protozoa in Jackson Hole mammals. Supported by a National Science Foundation grant.

Gerald Scherba—Altitudinal distribution of ant communities. This project initiated in 1955 will be continued. Supported by the New York Zoological Society.

Dixie R. Smith—An evaluation of certain exclosures. A new project to be continued.

W. G. Solheim—Plant ecology of Swan Lake. Flora of the Jackson Hole Region. Both projects started in 1955 will be continued.

Charles S. Thornton—Influence of nerves on the regeneration and regression of limbs in Amphibia. This project was initiated in 1954 and will continue through next summer. Supported by the National Science Foundation.

Based on the investigations to be continued and the applications for new projects, an interesting and profitable research program is assured for 1957.

The Station continued to work on research projects of interest to the Grand Teton National Park Service and Forest Service. Park Service employees utilized the facilities of the Station and received scientific counsel from Station personnel. The Station was honored by visits of many eminent biologists. Among the visitors concerned with the future plans and services of the Station were Dr. Fairfield Osborn, President of the New York Zoological Society, who gave valuable advice on the business operations of the Station, plans for improvement and research projects which could be developed; Dr. C. R. Carpenter, Coordinator of the Animal Behavior Research Program of the Zoological Society; and Miss Elizabeth Cushman, Student Conservation Corps Representative of the National Parks Association, to discuss the ways in which the Research Station can cooperate in the training program for the Student Conservation Corps which will be initiated in Grand Teton National Park next summer.

SEMINARS. Regular weekly seminars were held on biological subjects related to the research work being pursued by investigators at the Station. Biologists of the Park Service and other people interested in biology were invited to participate. The critical discussion of reports furnished valuable information and stimulus to the research workers. A general spirit of cooperation and friendship prevailed

throughout the summer among the personnel of the Station. Social functions helped in establishing a spirit of informality and high morale among the people at the Station.

LIBRARY. New books were added and all subscriptions to periodicals were continued. Publication reprints and reports of previous investigations are continually being added to the library.

PHYSICAL FACILITIES. Plans were made for obtaining housing and furnishings from the Jackson Lake Lodge Company at Moran. Possibly four buildings will be added to the Station for enlarging laboratory, library and storage spaces, for adding two new living units and for providing modern shower and toilet facilities.

As a result of REA, additional electrical research equipment was utilized. Two old houses in the vicinity of the Station were reconditioned for temporary use in order to provide for additional research workers. All of the permanent log buildings were oil-treated and the project of installing cinder block foundations was continued.

TREASURER'S REPORTS
For the Year Ended December 31, 1956

DAVID H. MCALPIN, *Treasurer*
30 East 40th Street
New York 16, N. Y.

NEW YORK ZOOLOGICAL SOCIETY

BALANCE SHEET • December 31, 1956

ASSETS

Cash in banks and on hand	\$ 267,310.53
Investments (approximate market value \$8,026,800)—(note 4) .	6,538,164.18

Receivable from the City of New York:

Appropriations for Zoological Park maintenance— calendar year 1956	\$774,780.28	
Less amount received	648,039.73	126,740.55

Other receivables	6,786.74
Park facilities' inventories	22,941.91

Park facilities' assets, less depreciation (note 1):

Improvements to land and buildings in Zoological Park	177,721.37	
Equipment and miscellaneous items	70,303.39	248,024.76

Prepaid expenses and deferred charges	9,578.11
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National collection of heads and horns, art gallery, library and sundry items	1.00
Collection of living animals	1.00
Jackson Hole research station buildings	1.00
Simla tropical research station	1.00

7,219,550.78

Aquarium Fund assets, per contra (note 4):

Cash in banks and on hand	11,004.61
Investments (approximate market value \$125,200)—(note 4)	130,191.71
Receivable from the City of New York	27,613.34
Deposit with the City of New York	5,658.12
Prepaid expenses and deferred charges	5,427.05
	<u>179,894.83</u>

Less:

Commitment to the City of New York for the construction cost of the first stage of the aquarium	\$740,400.00
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Less construction work in progress	683,851.88
	<u>56,548.12</u>

Commitment for preparatory cost of the first stage of the aquarium. \$87,500.00	
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Less preparatory cost in progress	27,613.41	59,886.59
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116,434.71

63,460.12

\$7,283,010.90

NEW YORK ZOOLOGICAL SOCIETY

BALANCE SHEET • December 31, 1956

LIABILITIES

Accounts payable and accrued expenses		\$	86,509.68
Fund reserves:			
General Funds	\$4,775,605.65		
Endowment Funds	1,528,039.49		
Special Purpose Funds	302,229.50		
Reserve for Educational and Other Purposes	4,647.63		
Park Facilities Operating Fund	522,518.83		7,133,041.10
			<u>7,219,550.78</u>
Aquarium Fund, per contra:			
Accounts payable	3,753.40		
Fund reserve:			
Fund for construction of			
new penguin exhibit.....	\$ 2,500.00		
Aquarium Fund	55,406.36		57,906.36
			<u>1,800.36</u>
Aquarium Operating Reserve Fund			63,460.12
			<u>\$7,283,010.90</u>

NOTES

- (1) Park facilities' assets are subject to an agreement with the City of New York, and the net income from park facilities' operations may be used only for the purchase of animals and the improvement of Zoological Park.
- (2) The balance sheet does not include the assets and liabilities of The Pension Fund.
- (3) Except for income from investments, which is accounted for in the year received, the balance sheet is prepared on an accrual basis.
- (4) The New York Zoological Society and the City of New York have entered into an agreement to construct an aquarium, as funds become available, at an estimated total cost of \$7,100,000.00 to be shared equally by both parties. Contracts have been awarded for the first stage of construction, which will cost approximately \$1,480,800.00. The Society has deposited with the City of New York U. S. Treasury bonds and notes of the par value of \$51,000.00 and cash in the amount of \$5,658.12 as a guarantee for the balance, \$56,548.12, of its share of the construction cost of \$740,400.00. In addition, preparatory costs are estimated at \$175,000.00 and the Society has provided \$87,500.00 for its share of the cost.

FUND RESERVES

December 31, 1956

General:

General Working Fund	\$ 38,236.64
Anna M. Harkness Fund	1,162,273.90
Sage Fund	721,463.28
Mary Clark Thompson Fund	2,853,631.83
	<hr/>
	4,775,605.65

Endowment:

George F. Baker Fund	\$ 133,023.70	
Edward P. Casey Fund	99,790.10	
Mary Thurston Cockroft Fund	35,960.49	
Robert Jaffray Fund	16,956.81	
William Pyle Philips Fund	12,510.57	
Rockefeller Fund	1,229,797.82	1,528,039.49
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Special Purpose:

Cadwalader Animal Fund	24,248.05	
Conservation Account	16,744.87	
Damon Fund	23,477.74	
Grant Fund for the Protection of Wildlife ..	30,069.56	
Jacob H. Schiff Fund	129,925.08	
Stokes Bird Fund	6,108.12	
Miscellaneous	71,656.08	302,229.50
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Reserve for Educational and Other Purposes	4,647.63
Park Facilities Operating Fund	522,518.83
	<hr/>
	7,133,041.10
Aquarium Fund	57,906.36
Aquarium Operating Reserve Fund	1,800.36
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	\$7,192,747.82
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See accompanying notes to financial statements.

PERMANENT WILD LIFE PROTECTION FUND

Cash	\$ 881.73
Investments (approximate market value \$177,800.)	151,016.72
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Principal Fund at December 31, 1956	\$151,898.45
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SUMMARY OF CHANGES IN FUND RESERVES, OTHER THAN PARK FACILITIES AND AQUARIUM FUNDS

Year ended December 31, 1956

GENERAL FUNDS

Balance at December 31, 1955	\$4,558,311.41
Receipts	255,143.90
	<hr/>
	4,813,455.31
Expenditures	37,849.66
	<hr/>
Balance at December 31, 1956	<u>\$4,775,605.65</u>

ENDOWMENT FUNDS

Balance at December 31, 1955	1,453,396.97
Receipts	74,642.52
	<hr/>
Balance at December 31, 1956	<u>\$1,528,039.49</u>

SPECIAL PURPOSE FUNDS

Balance at December 31, 1955		270,335.01
Receipts	\$119,766.85	
Appropriations from other funds	83,500.00	203,266.85
	<hr/>	<hr/>
		473,601.86
Expenditures		171,372.36
		<hr/>
Balance at December 31, 1956	\$	<u>302,229.50</u>

RESERVE FOR EDUCATIONAL AND OTHER PURPOSES

Balance at December 31, 1955		13,976.96
Receipts		20.00
		<hr/>
		13,996.96
Expenditures	5,849.33	
Appropriations to other funds	3,500.00	9,349.33
	<hr/>	<hr/>
Balance at December 31, 1956	\$	<u>4,647.63</u>

See accompanying notes to financial statements.

AQUARIUM FUND

Year ended December 31, 1956

Balance at December 31, 1955		\$ 44,964.39
Add:		
Gifts	\$ 37,436.98	
Income from investments	6,599.02	44,036.00
		<u>89,000.39</u>
Deduct:		
Partial cost of four sea elephants	9,109.27	
Net loss on sales of securities	9,325.72	
Preparatory costs borne wholly by the Aquarium Fund	12,484.04	
Miscellaneous	175.00	31,094.03
Balance at December 31, 1956		<u>\$ 57,906.36</u>

See accompanying notes to financial statements.

NEW YORK AQUARIUM

STATEMENT OF INCOME AND EXPENSE AND OPERATING RESERVE FUND

Year ended December 31, 1956

Parking field fees		\$ 4,035.00
Less:		
Parking field payroll	\$ 2,004.02	
Parking field supplies	221.62	
General office supplies and expenses.....	9.00	2,234.64
Balance of Aquarium Operating Reserve Fund at December 31, 1956		<u>\$ 1,800.36</u>

GENERAL WORKING FUND

Year ended December 31, 1956

Balance at December 31, 1955	\$	52,356.78
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Add:

Gifts	\$ 11,836.88	
Life memberships	2,745.00	
Conservation film royalties	6,456.92	
Pro-rata share of net profit on sales and redemption of investments	2,690.72	23,729.52
		<u>76,086.30</u>

Deduct payments:

Production of publications on the care and exhibition of wild animals in captivity.....	3,500.00	
Operating costs of Department of Tropical Research at Simla, Trinidad, B.W.I.:		
For the year ended April 30, 1956....	5,000.00	
For the year ended April 30, 1957.....	3,000.00	
Appropriation to The Conservation Foundation, Inc.	10,000.00	
Operating expenses and research at Jackson Hole Research Station	3,800.00	
Production of Penguin film	3,768.15	
Grant to the National Foundation for Junior Museums	750.00	
Miscellaneous	1,046.06	
Deficit from general income account	6,985.45	37,849.66
		<u>37,849.66</u>

Balance at December 31, 1956	\$	<u>38,236.64</u>
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See accompanying notes to financial statements.

GENERAL INCOME ACCOUNT

Year ended December 31, 1956

Income:

Income from investments	\$303,768.29
Annual dues	48,820.00
Sales of publications	4,289.57
Miscellaneous income	5,212.03
	<hr/>
Total income	\$362,089.89
	<hr/> <hr/>

Expenses:

Actuarial fee	1,188.00
Annual report	2,868.06
Aquarium research	6,158.55
Audit fee	2,400.00
Conservation	20,000.00
Custodian fees	3,416.00
Educational activities	16,853.46
Employee welfare	3,242.02
Executive office	22,622.83
Group life insurance	5,498.38
Hospitalization	5,694.15
Insurance	7,156.86
Legal fees	3,000.00
Library	850.33
Members—meetings and services	15,194.75
Membership promotion and fund raising	10,624.75

Pensions:

Fund contribution—150% of employee contributions	\$ 27,806.41	
Auxiliary payments	5,301.82	33,108.23
	<hr/>	
Photography—salaries and supplies		10,349.92
Publication expenses:		
Salaries and other expenses	19,466.07	
“Animal Kingdom”	15,243.91	
“Zoologica”	8,083.20	42,793.18
	<hr/>	
Reception expense		2,024.96
Social security taxes		1,265.64
Traveling expense		5,182.20
Tropical research		16,280.00
Miscellaneous expense		4,088.05
		<hr/>
		241,860.32

Park maintenance expenditures for the year 1956...	901,995.30	
Less amount provided by New York City....	774,780.28	
	<hr/>	
Amount expended by New York Zoological Society		127,215.02
Deficit carried to General Working Fund		(6,985.45)
		<hr/> <hr/>
		\$362,089.89

See accompanying notes to financial statements.

PARK FACILITIES

STATEMENT OF INCOME AND EXPENSE AND OPERATING FUND

Year ended December 31, 1956

Balance of Park Facilities Operating Fund at December 31, 1955	\$437,806.54
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Add:

Receipts from sales at restaurants, stands, etc. and from services	\$1,047,187.47
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Less:

Cost of merchandise sold....	\$306,355.09	
Salaries and commissions....	411,782.78	
Operating and maintenance supplies	99,114.77	
Depreciation	24,964.49	
Comprehensive public liability insurance	13,841.06	
Other operating and general expenses	26,416.99	882,475.18

Net income from sales at restaurants, stands, etc. and from services (note 1)	164,712.29
	<u>602,518.83</u>

Deduct:

Appropriations for park improvements	60,000.00	
Appropriations for the purchase of animals...	20,000.00	80,000.00

Balance of Park Facilities Operating Fund at December 31, 1956	<u>\$522,518.83</u>
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See accompanying notes to financial statements.

GIFTS, GRANTS AND LEGACIES RECEIVED

Year ended December 31, 1956

General Working Fund:

Mrs. Edward L. Ballard	\$ 1,000.00	
Bulova Watch Co. Foundation	500.00	
The Corporation Trust	500.00	
Childs Frick	2,500.00	
Florence E. Quinlan	700.00	
Rockefeller Brothers Foundation, Inc.	5,000.00	
J. Watson Webb	1,636.88	
		<u>11,836.88</u>

Bermuda Biological Station for Research:

Childs Frick	2,000.00
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Bermuda Aquarium and Museum:

Childs Frick	2,000.00
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Biological Synthesis of the Poeciliid Fishes:

National Science Foundation	4,400.00
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Blickman Film Fund:

Saul Blickman	4,750.00
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Cancer Research:

National Cancer Institute	\$23,204.41	
Damon Runyon Memorial Fund	<u>5,900.00</u>	29,104.41

Ocypodid Crab Research:

National Science Foundation	4,600.00
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The Physiology of the Pituitary Gland of Fishes:

L. A. Atz Company	2,000.00	
Mearl Corporation	<u>500.00</u>	2,500.00

Special Fund for Construction of Animal Nursery:

Mrs. John H. Hammond	25.00	
Others (2)	<u>8.00</u>	33.00

Special Fund for Coral Reef Studies:

Anonymous	1,875.00
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Study of Neotropical Butterflies in Trinidad:

National Geographic Society	3,500.00
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Carried forward	<u>\$ 66,599.29</u>
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Brought forward	\$ 66,599.29
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Special Projects:

Archibald S. Alexander	\$ 50.00	
Anonymous	25.00	
L. A. Atz	25.00	
The Roger Benjamin Fund, Inc.	50.00	
Robert E. Blum	250.00	
Mrs. E. Gerry Chadwick	250.00	
Percy Chubb	250.00	
Charles E. Culpeper Foundation, Inc.	250.00	
Dr. Fulton Cutting	25.00	
C. Suydam Cutting	300.00	
F. Trubee Davison	150.00	
George and Margarita Delacorte Foundation ...	100.00	
Dr. A. Raymond Dochez	150.00	
John Elliott	100.00	
Alfred Ely	200.00	
Marshall Field	250.00	
J. I. Foundation	100.00	
Childs Frick	250.00	
Dr. Henry Clay Frick II	250.00	
Miss Anne Van N. Gamble	100.00	
Rev. Robert I. Gannon, S.J.	50.00	
Robert G. Goelet	500.00	
De Forest Grant	250.00	
Peter Grimm	150.00	
Miss Irene Hayes	500.00	
Eugene Holman	250.00	
Polly and Gilbert Kahn Foundation, Inc.	250.00	
Mrs. Noel J. King	25.00	
Warren Kinney	500.00	
Thomas I. Laughlin	25.00	
Lyric Foundation, Inc.	25.00	
William De Forest Manice	150.00	
David McAlpin	1,000.00	
Harold J. O'Connell	100.00	
Fairfield Osborn	250.00	
Hon. Richard C. Patterson, Jr.	100.00	
John H. Phipps	100.00	
Eben W. Pyne	500.00	
James H. Ripley	25.00	
Carried forward	<u>\$ 7,875.00</u>	<u>66,599.29</u>

Brought forward	\$ 66,599.29
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Special Projects, continued:

Brought forward	\$ 7,875.00	
Hubert E. and Anne E. Rogers Foundation, Inc. . .	100.00	
Mrs. Axel Rosin	100.00	
The Scherman Foundation, Inc.	250.00	
John M. Schiff	1,000.00	
Henry Sears	1,000.00	
Richard Shields	100.00	
Harold Stanley	25.00	
Time, Incorporated	250.00	
Landon K. Thorne	250.00	
Lewis Turner	25.00	
Alfred G. Vanderbilt	250.00	
J. Watson Webb	100.00	
Edwin S. Webster, Jr.	1,000.00	
Others (12)	65.00	
For Department of Tropical Research:		
Mrs. John S. Dunning	200.00	
For Psittacine Bird House:		
Harry and Marion Zelenko	100.00	12,690.00

Aquarium Fund:

George F. Baker, Jr.	1,014.48	
C. Suydam Cutting	2,223.00	
John Elliott	100.00	
Childs Frick	9,692.00	
Dr. Henry Clay Frick II	5,193.75	
Good Neighbor Foundation, Inc.	100.00	
Miss Irene Hayes	500.00	
Warren Kinney	1,000.00	
Ernest Lowenstein	10.00	
Mrs. Magda Merck Sheldon	1,950.00	
David McAlpin	1,075.00	
Anne Phipps	2,488.50	
Howard Phipps, Jr.	2,604.00	
John H. Phipps, Jr.	1,986.25	
The Schiff Foundation	2,500.00	
The Thorne Foundation	5,000.00	37,436.98
		<u>\$116,726.27</u>

THE PENSION FUND

(Founded by Andrew Carnegie)

STATEMENT OF CASH TRANSACTIONS

Year ended December 31, 1956

Balance at December 31, 1955:

Investments (approximate market value \$1,555,100.00)	\$1,220,117.28
Accrued interest purchased	244.46
Uninvested balance of cash	13,860.44
	<u>1,234,222.18</u>

Receipts:

Income from investments:

Interest	\$ 19,757.22
Dividends	37,893.00
	<u>57,650.22</u>

Contributions by employees 22,718.79

Contributions by New York

Zoological Society (150% of
contributions by employees):

Society	\$27,751.69
Facilities	6,326.67
	<u>34,078.36</u>

Special contributions	4,336.02	118,783.39
	<u>1,353,005.57</u>	

Expenditures:

Refunds on account of resignations	4,483.22	
Refunds to heirs of deceased employees . . .	5,228.93	
Pension disbursements	35,305.00	
Pension payments to heirs of deceased employees	52.85	45,070.00
	<u> </u>	<u>1,307,935.57</u>

Net profit on sale and redemption of

securities	15,193.06
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Balance at December 31, 1956:

Investments (approximate market value \$1,553,000.00)	1,312,719.92
Accrued interest purchased	428.60
Uninvested balance of cash	9,980.11
	<u>\$1,323,128.63</u>

PEAT, MARWICK, MITCHELL & CO.

CERTIFIED PUBLIC ACCOUNTANTS

Seventy Pine Street

New York 5, N. Y.

ACCOUNTANTS' REPORT

THE BOARD OF TRUSTEES

NEW YORK ZOOLOGICAL SOCIETY:

We have examined the balance sheet of the New York Zoological Society as of December 31, 1956 and statements of the transactions of the various funds of the Society and of The Pension Fund for the year then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

We made a test-check of the subscriptions, donations and dues reported as received and of the income from investments, and found such items to be properly recorded. The securities recorded in the various funds were in agreement with schedules and other supplementary data prepared by the custodians of such securities held for the account of the Society. Bank balances were confirmed directly to us by the depositaries and were reconciled with the respective cash balances recorded in the accounts. We examined approved vouchers and paid checks for a number of representative expenditures.

Park facilities' assets are carried in the accounts at net depreciated book amounts as of December 31, 1940 plus subsequent additions at cost, less retirements. Provision for depreciation from January 1, 1941 to December 31, 1956 has been computed on the resulting book balances.

In our opinion, subject to the comments contained in the previous paragraph, the accompanying balance sheet and statements of transactions of the various funds of the Society present fairly the financial position of the Society at December 31, 1956 on the basis stated therein, and the changes in the funds of the Society for the year then ended, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

PEAT, MARWICK, MITCHELL & Co.

New York, N. Y.

March 8, 1957

REPORT OF THE AUDITING COMMITTEE OF THE NEW YORK ZOOLOGICAL SOCIETY

TO THE PRESIDENT AND BOARD OF TRUSTEES
OF THE NEW YORK ZOOLOGICAL SOCIETY

Dear Sirs:

We have examined the reports of Peat, Marwick, Mitchell & Co., Certified Public Accountants, on their examination of the balance sheet of the New York Zoological Society as of December 31, 1956, and statements of the transactions of the various funds of the Society, the Aquarium, and of The Pension Fund for the year then ended. We have noted that their examination was made in accordance with generally accepted auditing standards and, accordingly, included such tests of the accounting records and such other auditing procedures as they considered necessary in the circumstances. The balance sheet and statements of transactions of the various funds of the Society present fairly, in our opinion, the financial position of the Society as of December 31, 1956.

We accordingly submit Messrs. Peat, Marwick, Mitchell & Company's reports to you as a satisfactory examination of the balance sheet and statements of the transactions of the various funds of the Society, the Aquarium, and of The Pension Fund.

Respectfully submitted,

GEORGE F. BAKER
C. SUYDAM CUTTING
WILLIAM DEFORREST MANICE
J. WATSON WEBB

March 30, 1957

SUMMARY OF EXPENDITURES, 1896 to 1956, New York Zoological Society and the City of New York, on Account of the Development and Maintenance of the Zoological Park and the Aquarium, Including the Purchase of Collections and Also for the Scientific and General Purposes of This Society.

Year	EXPENDED BY THE CITY OF NEW YORK			FROM GATE RECEIPTS			EXPENDED BY THE NEW YORK ZOOLOGICAL SOCIETY								
	Zoological Park Maintenance	Aquarium Maintenance	Bond Issues a/c Park & Aquarium	Construction and Repairs	Purchase of Animals	Zoological Park Development	Aquarium Improvements	Zoological Park Maintenance	Aquarium Maintenance	Purchase of Animals	Aquarium Specimens	Heads and Horns Collection	Pension Fund Contribution	Library and Paintings	Scientific and General Purposes
1896						\$ 4,213.63									
1897						6,424.61									
1898						23,597.80		\$ 1,292.16							\$ 2,903.74
1899	\$ 30,000.00					145,495.80		7,038.61		\$ 8,540.72					4,339.20
1900	40,000.00		\$125,000.00		\$ 2,470.88	34,626.24		6,189.33		3,784.32				\$ 102.76	3,476.02
														88.13	5,601.78
1901	65,000.00		300,000.00		2,998.80	18,348.61		3,714.37		11,652.24				462.20	7,597.16
1902	85,000.00	\$ 5,959.97	250,000.00		4,256.50	5,908.69		2,757.57		20,983.07				224.73	11,068.69
1903	104,965.00	46,453.68	280,000.00		5,912.95	1,038.20				20,361.62				456.03	13,608.10
1904	104,965.00	46,439.72	315,000.00		5,421.90	1,013.87		1,894.37		14,299.61				887.16	15,072.84
1905	134,965.00	44,968.50	275,000.00		6,849.00	144.00				20,043.40				418.10	18,773.90
1906	144,965.00	44,987.71	250,000.00		8,132.35	778.48				14,907.36				319.16	17,961.67
1907	141,558.75	44,183.87	100,000.00		8,248.65	370.72				10,606.03		\$ 892.71		644.05	15,999.68
1908	154,627.00	44,157.27	65,000.00		9,446.40	232.27				4,231.61		735.77		1,313.87	14,693.92
1909	162,325.00	45,971.44	10,000.00		9,992.75	2,860.92				9,734.43		7,340.82		609.56	17,168.95
1910	167,632.00	45,974.86	89,500.00		9,909.90	5,918.35				4,339.25	\$ 973.90	2,036.39		1,021.87	20,627.77
1911	174,632.00	47,560.21	155,000.00		11,611.15	1,155.00				6,659.89	1,191.80	1,615.38		1,221.26	23,409.39
1912	182,365.00	46,597.08			11,838.40	40.00				22,750.18	1,350.03	556.94		1,031.55	32,109.01
1913	191,925.00	47,335.62	29,100.00		12,404.25	218.45				10,665.57	1,850.25	486.00		732.97	32,543.88
1914	200,000.00	46,995.53		\$ 9,237.81	3,831.15	2,175.13				22,590.44	1,792.99	338.73	\$3,333.33	3,541.15	28,246.42
1915	200,000.00	46,991.66	21,425.00	9,175.86		887.88				13,629.41	1,466.64	1,024.91	8,000.00	4,181.24	31,398.08
1916	197,074.35	46,996.43		9,599.81		425.30				13,511.12	2,193.57	1,031.47	8,000.00	1,555.12	38,339.99
1917	199,560.00	46,903.61		3,488.31	7,118.90	1,450.05		11,537.79		10,175.70	1,637.15	18.12	8,000.00	2,869.20	44,262.48
1918	207,586.00	48,630.71		2,642.70		48.12		1,580.00	\$ 93.61	8,425.92	960.19	18.61	8,000.00	3,559.85	34,125.49
1919	190,000.00	45,000.00	5,000.00	4,917.84			\$ 3,450.00	19,924.00	407.07	13,345.59	1,028.05	88.27	8,000.00	1,442.07	45,599.71
1920	250,098.27	53,971.48	15,000.00	17,438.28		5,007.00	4,095.03	5,141.92		32,761.08	1,654.02	263.86	8,000.00	2,517.64	51,018.20
1921	276,951.01	65,203.12	86,000.00	25,463.77		88,734.92	53,635.02	6,068.17	976.47	27,442.59	2,165.05	2,661.67	8,000.00	4,698.24	55,684.15
1922	264,618.05	63,341.26	25,000.00	17,060.00		50,888.65	16,153.03	10,074.88	3,326.28	43,047.41	3,057.91	7,191.93	8,000.00	1,765.78	58,797.69
1923	262,724.50	57,166.63		18,388.20		3,319.44		19,019.09	3,319.44	24,456.20	1,432.89	1,550.69	8,000.00	3,391.96	58,404.21
1924	262,471.01	57,319.20	7,970.00	16,806.00			28,233.45	28,956.34	8,097.14	11,560.62	2,013.88	942.34	8,000.00	1,938.77	76,559.41
1925	262,808.69	58,324.89	85,000.00	19,974.05				38,793.01	4,380.45	20,843.01	2,609.55	667.78	8,000.00	1,174.24	242,753.89
1926	273,815.12	62,266.20	1,500.00	20,102.90				45,467.10	7,261.21	23,460.04	2,847.35	306.32	8,000.00	562.40	87,915.27
1927	276,855.19	65,216.89		18,960.48			1,395.00	61,968.22	11,656.97	27,545.92	2,861.55	135.00	8,000.00	2,477.37	82,807.54
1928	319,380.50	88,109.12		18,106.25		2,480.06		52,676.35	10,776.84	21,001.88	2,912.97	107.89	8,000.00	1,168.15	88,794.37
1929	338,359.00	71,229.35	100,000.00	21,957.80		13,095.54	984.85	59,673.38	13,670.81	23,783.69	3,572.14	669.48	8,000.00	4,029.63	122,774.78
1930	350,170.92	81,343.46	50,000.00	20,834.91		2,500.89	375.00	65,600.39	16,966.30	17,492.92	1,355.56	639.04	10,000.00	2,726.37	134,278.88
1931	349,344.95	76,408.08		14,890.58		5,131.68		65,601.03	19,541.40	24,439.56	3,650.58	1,707.40	10,000.00	6,713.26	128,871.12
1932	337,490.01	76,071.24		16,710.25		1,852.40		61,127.48	19,155.01	20,039.28	1,934.84	335.00	10,000.00	3,607.97	97,303.32
1933	268,633.38	67,814.24	5,422.63	13,961.02				62,996.66	18,120.73	7,644.14	2,199.91	118.65	10,000.00	3,384.38	86,757.06
1934	257,423.08	65,806.61		11,025.88		1,037.19		66,502.59	18,229.23	9,267.86	1,641.06	162.86	10,000.00	606.53	81,711.26
1935	265,630.94	68,203.46		11,596.51				60,237.94	18,832.57	16,530.28	2,031.56	275.21	10,000.00	383.07	82,929.14
1936	265,057.37	68,760.95		13,496.42		100.00		57,270.94	17,886.45	20,918.46	2,867.50	178.43	10,000.00	470.18	79,835.73
1937	267,192.29	73,807.74		11,527.85				56,262.45	16,408.55	22,417.08	2,799.17	24.79	19,047.09	1,415.39	92,609.40
1938	282,759.71	79,225.20		10,235.70				57,043.10	13,408.11	15,351.51	558.82		20,455.95	431.41	93,543.59
1939	283,280.81	79,164.23		11,019.23				51,050.57	12,941.70	23,012.27	403.75	175.00	20,475.95	345.30	92,576.90
1940	282,761.15	78,905.12		8,392.10		102,343.87		57,513.25	12,022.76	39,627.52	577.10		20,069.17	533.85	98,501.05
1941	286,284.59	62,052.95		15,947.33		187,408.02		84,254.19	9,466.70	57,236.77	574.40		18,206.34	1,316.89	100,846.55
1942	258,656.76	50,931.00		10,169.20		43,088.43		49,226.40	4,807.79	8,369.36	553.52		10,762.57	401.65	144,765.21
1943	305,203.23	33,324.31		11,904.80		38,860.03	3,500.00	51,833.51	5,154.21	2,319.36	336.19		9,832.98	574.01	73,192.91
1944	315,787.82	33,790.82		17,316.09		32,101.60	23,420.00	50,691.82	3,717.28	5,106.59	96.48		10,234.06	405.52	88,594.55
1945	334,288.37	38,158.81		20,745.35		58,943.48	225.52	58,846.39	5,928.38	11,466.19	460.34		12,681.89	1,001.92	112,541.29
1946	366,113.74	42,654.03		24,688.34		122,388.48	*34,997.55	62,439.25	6,742.70	43,037.09	172.30		14,238.14	741.14	168,881.41
1947	440,147.60	40,285.04		22,665.64		101,392.80	*19,669.26	85,294.53	8,715.67	71,342.79	687.91		15,751.26	690.03	348,442.82
1948	469,638.83	38,564.40		30,690.08		93,683.84	116.71	83,652.16	9,419.90	26,461.29	470.63		16,708.48	1,004.40	346,222.76
1949	497,900.12	40,189.02		25,400.02		344,122.56	*4,203.50	82,044.22	11,170.76	50,408.80	1,370.90		31,251.50	1,220.17	333,513.75
1950	506,035.90	40,188.48		23,731.77		62,598.22		85,411.22	11,404.61	22,947.59	767.71		35,049.90	970.52	298,458.78
1951	553,918.55	42,774.35		28,913.22		69,747.69		94,063.94	12,966.97	17,934.34	613.19		17,936.21	1,365.34	271,570.10
1952	579,931.76	45,809.54		27,588.02		40,542.32		105,641.48	13,721.06	18,806.08	665.69		18,938.55	1,615.36	335,393.47
1953	632,546.60	45,756.46		27,066.78		218,810.05	*9,123.67	97,757.81	14,329.34	28,470.18	468.74		21,806.69	796.59	309,159.64
1954	639,084.84	48,606.34													

NEW YORK ZOOLOGICAL SOCIETY

INCORPORATION of the New York Zoological Society by the State of New York was accomplished under Chapter 435 of the Laws of 1895 and the basic purposes of the Society were embodied in Section 2:

Said corporation shall have power to establish, maintain and control zoological parks, gardens, or other collections for the promotion of zoology and kindred subjects, and for the instruction and recreation of the people. Said corporation may collect, hold and expend funds for zoological research and publication, for the protection of wild animal life, and for kindred purposes, and may promote, form, and co-operate with other associations with similar purposes, and may purchase, sell, or exchange animals, plants, and specimens appropriate to the objects for which it was created.

Subsequently, at a special meeting of the Commissioners of the Sinking Fund, City of New York, held on March 24, 1897, a resolution was passed allotting South Bronx Park for the use of the New York Zoological Society and establishing the terms of a management agreement under which the Society has operated since that date, with only minor modifications.

The resolution of March 24, 1897, and the supplemental agreement of January 24, 1942, provided that the Society should furnish the original equipment of buildings and animals, that it should raise \$250,000 by subscription within three years of the date of starting work on the improvement of the grounds, that the Society should have the right to establish an endowment fund to be used solely for the general uses and purposes of the Society unless otherwise specified by the donors, that the City of New York should provide funds for the maintenance and care of the Zoological Park and for the maintenance of the animal collections, that the Zoological Park should be open to the public free at least four days a week, that the Society may expend the net proceeds of facilities only for the purchase of animals and the improvement of the Zoological Park and that the Society should have the right to make and control all appointments of employees and to fix salaries and make promotions.

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New York Aquarium1902 to 1937
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Zoological Park1926 to 1940
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MEMBERSHIP IN THE NEW YORK ZOOLOGICAL SOCIETY

THE NEW YORK ZOOLOGICAL SOCIETY was founded in 1895 for the "instruction and recreation of the people" through the establishment of a Zoological Park, for the promotion of zoology through exhibition of collections, publication, research and exploration, and for the conservation of animal life of the world. Since 1899 the Zoological Society has directed the New York Zoological Park and in 1902 it was entrusted with the management of the New York Aquarium.

MEMBERSHIP is actively invited of all persons who are interested in the objects of the Society and desire to contribute toward its support.

ANNUAL MEMBERSHIP is \$15. Contributing Membership is \$25. These Memberships entitle the holders to Member's cards and 10 guest tickets of admission to the Zoological Park on pay days; a copy of the *Annual Report*; a subscription to *Animal Kingdom*, the bi-monthly publication of the Society; privileges of the Library and Members' Lounge in the Administration Building and to attend all open meetings of the Society. Tickets to all sections of the Zoological Park for which an admission charge is made are available, free, to Members upon application at the Administration Building in person. Members will be taken on "behind the scenes" tours of the Zoological Park and Aquarium, without charge, on application, and are entitled to 20% discount on all publications of the Society. We are advised that Contributing Membership fees are deductible from income tax within the legal limits.

LIFE MEMBERSHIP is \$300. See By-laws for conversion of Annual and Contributing to Life Membership. Other classes of membership are: Patron, \$1,000; Associate Founder, \$2,500; Founder, \$5,000; Founder in Perpetuity, \$10,000; Benefactor, \$25,000.

APPLICATIONS for membership may be submitted to any officer of the Society or to the Society's general office at 30 East 40th Street, New York 16, N. Y.

FORM OF BEQUEST

I do hereby give and bequeath to the "New York Zoological Society," of the City of New York.

.....

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Ponder, Eric
Pope, Clifford H.
Portielje, A. F. J.
Priemel, Kurt
Riess, Bernard F.
Ripley, S. Dillon, 2nd
Schneirla, T. C.
Schroeder, Charles
Scott, George G.
Scott, J. Paul
Seth-Smith, David
Simon, James R.
Smith, Homer W.
Stunkard, Horace W.
Tee-Van, John
Vogt, William
Zimmer, John T.

Research Associates

Breder, Dr. C. M., Jr.

Charipper, Dr. Harry A.

Smith, Dr. Homer W.

*Deceased

Life Members

Adams, Mrs. John Payson
 *Agnew, Mrs. Cornelius R.
 Aldridge, Walter H.
 Alexander, Archibald S.
 Alexander, Douglas H.
 Angell, Mrs. Ernest
 Auchincloss, Mrs. Edgar S.
 Bacon, Wentworth C.
 Baillie, Lloyd W.
 Baker, Mrs. George F.
 Baker, H. Martyn
 Baldwin, Joseph C.
 Baldwin, Mrs. Robert Howe
 Barber, John T.
 Barber, Thomas H.
 Bartow, Mrs. Francis D.
 Bartsch, Edmund
 Baruch, Bernard M.
 Baum, Mrs. Dwight James
 Bayne, Howard
 Beach, Goodwin B.
 Behn, Col. Sosthenes
 Benjamin, Henry Rogers
 Benkert, William R.
 Berol, Harry
 *Bing, Leo S.
 Bingham, Mrs. Harry Payne
 Bird, Charles Sumner
 Bird, Mrs. Frederic Godfrey
 Bismarch, Countess
 Black, Corwin
 Blagden, Mrs. Donald P.
 Blanchard, Mrs. Peter P., Jr.
 Blauvelt, Hiram B. D.
 Bliss, Robert Woods
 Bliss, Mrs. Robert Woods
 Bloomingdale, Lyman G.
 Blum, Robert E.
 Bole, Benjamin Patterson, Jr.
 Booth, William H.
 Brewster, Frederick F.
 Bridges, William
 Brixey, Mrs. Richard
 de Wolfe
 Brodbeck, Jean Jacques
 Brown, George McKesson
 Buba, Mrs. Peter
 Buch, Miss Emily
 Burden, W. Douglas
 Cannon, Mrs. Eleanor Rixson
 Carner, Ingram S.

Carpenter, William K.
 Carter, James Walter
 Carter, T. Donald
 Cartier, P. C.
 Cary, Guy
 Cattus, John C.
 Caulkins, Dan P.
 Chadwick, Mrs. E. Gerry
 Chapin, Charles Merrill, Jr.
 Chisholm, Hugh J.
 Chrysler, Jack F.
 Church, Frederic E.
 Clark, Charles Martin, Jr.
 Clark, F. Ambrose
 Coe, William R., Jr.
 Crandall, Lee S.
 *Crane, Henry M.
 Crawford, Mrs. George W.
 Cross, Dr. Thomas N.
 Cross, Mrs. W. Redmond
 Cutting, Mrs. Charles
 Suydam
 Cutting, Heyward
 Dafoe, Mrs. Grace Busche
 Dana, Charles A.
 Dana, William Shepherd
 Davis, Joshua A.
 Davison, F. Trubee
 Debevoise, Eli Whitney
 Deeds, Charles W.
 Delafield, Edward C.
 de Milhau, Louis John
 de Talleyrand, Duchesse
 Dickerman, Mrs. Watson B.
 Dietz, Mrs. C. N.
 Dochez, Dr. A. Raymond
 Dodge, M. Hartley
 Dominick, Mrs. Bayard
 Dominick, Dr. Richard B.
 Donahue, Mrs. Daniel J.
 Douglas, Archibald, Jr.
 Doxsee, Robert
 Du Bois, Miss Ethel
 Dunham, Edward K.
 Dunscombe, George
 Elsworth
 du Pont, Mrs. T. Coleman
 Dushkin, Mrs. Samuel
 Dwyer, Thomas
 Ecker, Frederick H.
 Edge, Mrs. Charles Noel

Elbert, Mrs. Robert G.
 Elliott, John
 Elmhirst, Mrs. Leonard
 Emmet, C. Temple
 Ewing, George R. M.
 Fenstermaker, Marvin C.
 Fesler, Mrs. James W.
 Field, Mrs. Marshall
 Filley, Oliver D.
 Fisher, Joel Ellis
 Foster, Richard W.
 Franz, Miss Edith H.
 Fraser, William
 Frelinghuysen, Peter H. B.
 French, Mrs. Harold C.
 Frost, Mrs. Morris Pratt
 Fuller, Robert G.
 Furse, George Ronald
 Gabriel, Robert Lee
 Gammell, William
 Gannon, Rt. Rev. Robert I.
 Geier, Paul E.
 Gerry, Robert L.
 Gibbons, George B.
 Gifford, Walter S.
 Gilmore, Miss Alice Mae
 Given, Mrs. John L.
 Goelet, Francis
 Goelet, Robert W.
 Goelet, Mrs. Robert W.
 Goldstone, Harmon H.
 Goodell, James McDonald
 Graham, Charles V.
 Green, Edward H.
 Greenleaf, Robert
 Greenway, Gilbert C., 4th
 Greenway, Mrs. James C.
 Greenway, Lauder
 Greenway, Miss Nelse
 Lawrence
 Grimm, Peter
 Grinnell, Mrs. George Bird
 Griswold, Evan S.
 Griswold, John S., Jr.
 Griswold, Miss Susan Shelby
 Griswold, Miss Ursula W.
 Griswold, William E. S., Sr.
 Grosvenor, Dr. Gilbert
 Guggenheim, S. R.
 *Hagenbeck, Lorenz
 Halls, William, Jr.

*Deceased

Hamilton, Brig. Gen.
 Pierpont Morgan
 Hance, Percy L.
 Hanger, William Arnold
 Hardeen, Mrs. Theodore, Jr.
 Harjes, John
 Harriman, E. Roland
 Harvey, Eli
 Haskins, Dr. Caryl P.
 Haxall, B. W.
 Helme, Mrs. George A.
 Henderson, Norman A.
 Hepburn, Mrs. A. Barton
Higginson, James J.
 Hilles, Mrs. Frederick W.
 Hochschild, H. K.
 Holman, Eugene
Howells, Mrs. John Mead
 Hunter, Mrs. Fenley
 Hutton, William E.
 Irons, Henry Clay
 Irwin, John N., 2nd
 Irwin, John V.
 Isles, Phillip
 Ittleson, Henry, Jr.
 James, Mrs. Darwin R., 3rd
 Jarvis, Ernest G.
Jennen, Joseph
 Jennings, Mrs. Lawrence K.
Jennings, Mrs. Oliver G.
 Kanuk, Charles
 Keiser, Mrs. David M.
 Kenedy, Miss Rosemary
 Kenyon, Lee J.
 Kieran, John
 Kirkland, Miss Winifred
 Kleberg, Robert J., Jr.
 Krech, Dr. Shepard
 Ladd, W. S., Jr.
 Lambert, Mrs. Gerard B.
 Lambert, Dr. Samuel W., Jr.
 Lamont, Miss Elizabeth K.
 Lane, George B.
 Leontios, George
 Lerner, Michael
 Leschin, Frank Zachary
 Levi, Benjamin
 Lewis, Mrs. Wilmerth S.
 Lincoln, Edward K.
 Lindboe, Sidney R.
 Lindeberg, Mrs. H. T.
 Lindheimer, B. F.
 Litchfield, E. Hubert

Llewellyn, Mrs. Ebben
 Schramm
 Lochrie, John
 Loomis, Alfred L.
 Lovell, F. Hallett
 Low, Mrs. Clara B.
 Luce, Henry R.
 Lynch, William
 Madeira, Percy C.
 Mahaffie, Mrs. C. D.
 Mallory, Charles H.
 Manice, William De Forest
 Maraventano, Dr. Louis
 William
 Margetts, Walter T., Jr.
 Marshall, James
 Martin, William McChesney,
 Jr.
 Mastick, Seabury C.
 Mauze, Mrs. Jean
 Maynard, Mrs. Katharine
 McAlpin, Mrs. David H.
 McCoy, Mrs. Ethel B.
 McCracken, Richard Norman
 McEwen, Mrs. Paul
 McKay, Robert Gordon
 *McKee, Hon. Joseph V.
McKinney, Glenn Ford
 McLean, John R.
 McMullan, Joseph V.
 Mead, Mrs. Winter
 Menken, Miss Helen
 Mercer, Mrs. Martha Dana
 Merck, George W.
 Merck, George W., Jr.
 Meredith, Col. R. Luff
 Merlesmith, Mrs. Van
 Santvoord
 Metcalf, Mrs. Manton B., Jr.
 Metcalf, Rowe B.
 Milbank, Dunlevy
 Milbank, Jeremiah
 Miller, Amos B.
 Mills, Mrs. Ogden L.
 Miner, Roger L.
 Mitchell, H. R.
 Mitchell, Joel S., Jr.
 Mitchell, Sidney A.
 Mitten, Dr. H. W.
 Monahan, Mrs. Alfred H.
 Monahan, James T.
 Morgan, Brewster
 Morris, Lawrence

Morris, Mrs. Lewis
 Rutherford
 Morrison, Mrs. Mary L.
 Mowbray, Louis L.
 Murley, Sydney H.
 Murray, Mrs. Ernest M.
 Nesbitt, Abram
 Nesbitt, Dr. Samuel
 Newman, Cyril J.
 Obergfell, Mrs. Emma
 O'Connell, Harold J.
 Opdyke, Pieter J.
 Ordway, Samuel H., Jr.
 Ordway, Mrs. Samuel H., Jr.
 Pack, Arthur Newton
 Pack, Randolph G.
 Palmer, A. J.
Palmer, Mrs. Henry W.
 Papalexis, Christ G.
 Parsons, Joseph
 Patterson, Hon. Richard
 C., Jr.
 Peters, Theodore
 Peters, Thomas M.
 Peyton, Bernard
 Peyton, Mrs. Bernard, Jr.
 Pierce, Miss Patricia
 Pierre, Mrs. Lillian
 Pillot, Andre P.
 Pond, James B.
 Pratt, Mrs. George D.
 Proctor, A. Phimister
 Pyne, Eben W.
 Pyne, Mrs. Grafton H.
 Quantrell, Ernest H.
 Randolph, Francis F.
 Raskob, John J.
 Raymond, Charles H.
 Read, Bayard W.
 Redmond, Mrs. Henry S.
 Redmond, Mrs. Roland L.
 Reed, Miss Bertha M.
 Renner, Charles J.
 Rice, Dr. Alexander Hamilton
 Ridgway, Mrs. William
 C., Jr.
 Robinson, Mrs. Beverly R.
 Rockefeller, Mrs. Laurance S.
 Roebbling, Donald
 Roeder, Arthur
 Rogers, James Gamble, Jr.
 Roosevelt, Archibald B.
 Roosevelt, Mrs. Kermit
 Rosentell, Lewis S.

*Deceased

Rosin, Mrs. Katharine S.
 Roth, William M..
 Rungius, Carl
 Rust, Adolf H.
 Sackett, Mrs. Nelson B.
 Sage, Dean
 Samish, Arthur H.
 Sandor, Miss Toni
 Sanford, Henry, Jr.
 Sanford, Samuel S.
 Sanger, Morgan Pruyn
 Schaefer, F. M. E.
 Schectman, Alan
 Schieffelin, Schuyler
 Schieffelin, William Jay, Jr.
 Schoo, Mrs. Clarence
 Scoville, Miss Grace
 Seaman, Joseph H., Jr.
 Shaffer, E. E. D.
 Shields, Richard
 Simmons, Grant G.
 Simmons, William Matthew
 Slade, Mrs. C. F. Roe
 Slater, H. N.
 Slater, William A.
 Sloan, Benson B.
 Smith, Miss Nellie M.
 Smithe, Frank B.

°Smyth, Mrs. David W.
 Spalding, Philip
 Squier, Stuart C.
 Stanley, Mrs. Robert C.
 Sterling, Miss Cynthia W.
 Stone, Robert G.
 Stoye, Frederick H.
 Strandberg, Mrs. Harriet B.
 Strauss, Miss Anna Lord
 Streeter, Daniel Denison
 Stromsted, Mrs. Julia Jay
 Swanson, George
 Taylor, Frank J.
 Tee-Van, John
 Tee-Van, Mrs. John
 Thomas, Lowell
 Thorne, Oakleigh, II
 Trefflich, Henry
 Trevor, John B.
 Vail, Mrs. T.
 Van Bomel, Mrs. Catharine B.
 Vanderbilt, Alfred Gwynne
 Vandercook, John W.
 Vander Pyl, Mrs. Mary
 Van Norden, Mrs. Grace
 Talcott
 Van Rensselaer, Charles A.
 Vida, A. M.

Wadsworth, Mrs. W. P.
 Wainwright, Richard T.
 Wallace, DeWitt
 Wallace, Mrs. DeWitt
 Ward, Mrs. Charlotte
 Washington, Miss Louise
 Webb, Harry Havemeyer
 Webb, Mrs. J. Watson
 Webb, Samuel B., Jr.
 Weed, J. Spencer
 Weisfeldt, M. J.
 Weiskopf, Daniel K.
 Weiss, L. A.
 Weyant, Miss Winthrope
 Whalen, Grover A.
 Wharton, William P.
 White, Ogden
 Whitman, Paul
 Whitney, Cornelius
 Vanderbilt
 Whitney, John Hay
 Wilcox, Roy C.
 Willcox, James
 Willetts, Howard
 Wilnerding, John C., Jr.
 Wilson, Brant Rex
 Winthrop, Robert

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Aaron, Jack
 Abrahams, Henry B.
 Abramovitz, Max
 Abreu, P. N. S.
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 Adelson, Richard H.
 Adkins, Leonard D.
 Albright, Horace M.
 Aldridge, Mrs. Walter H.
 Alexander, Archibald G.
 Alexander, Miss Helen D.
 Allee, Mrs. John P.
 Allega, Richard
 Allen, Alfred Reginald
 Allen, Mrs. Charles, Sr.
 Allen, Ethan
 Allen, Francis J.
 Allen, Mrs. Frederick L.
 Allen, Mrs. Rita
 Amory, Mrs. George S.
 Anderson, Dr. Arthur F.

Anderson, George A.
 Anderson, Mrs. Henry H.
 Andrews, De Lano
 Appel, Miss Nancy
 Appleton, Francis R., Jr.
 Arkeil, W. C.
 Aron, Jack R.
 Askin, Mrs. Arnold S.
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 Astor, Mrs. Vincent
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 Ayer, Charles F.
 Ayer, Charles J.
 Babbott, Dr. Frank L.
 Bache, Harold L.
 Baekeland, George
 Baker, Hugh B.
 Baker, Walter C.
 °Ball, Mrs. Ansell H.
 Ballard, Miss Amy Hope

Barach, Dr. Alvan L.
 Bareiss, Mrs. Walter
 Barnard, Chester I.
 Barnes, H. H., Jr.
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 Barry, William D.
 Bartholomew, Dana T.
 Bartram, Miss Evelyn
 Bartram, Mrs. J. Burr
 Bateson, E. Farrar, Jr.
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 Bauer, Bernard
 Baumann, Walter S.
 Beach, Edwin E.
 Beal, George J.
 Beard, Anson
 Beekman, Dr. Fenwick
 Begrisch, William C.
 Beinecke, Walter
 Beller, William C.
 Belmont, Mrs. August

°*Deceased*

Belth, Herman
 Bennett, Mrs. Graham L.
 Bennett, Walter C.
 Bergerman, Melbourne
 Berk, David
 Bernhard, Richard J.
 Bernheim, George B.
 Bernheim, Mrs. Henry J.
 Berns, Charles A.
 Bernuth, Charles M.
 Bieber, Siegfried
 Blagden, Crawford
 Blagden, Mrs. F. M.
 Blair, Wiley, Jr.
 Blick, John C.
 Bliss, Anthony A.
 Bliss, Miss Susan Dwight
 Blume, Milton J.
 Boehm, Edward Marshall
 Boettger, Theodore
 Boggs, Dr. Robert
 Bonney, Mrs. L. W.
 Bontecou, Jesse M.
 Boocock, Kenyon
 Booth, Mrs. Robert C.
 Borgstede, Miss J. Dorothy
 Bourne, Miss Grace E.
 Bradford, Mrs. Amory H.
 Bradley, J. L.
 Bradley, Montgomery S.
 Brandi, Frederic H.
 Braunstein, Victor
 Breed, Dr. Eben
 Breitenbach, Julius M.
 Brenner, George A.
 Breuchaud, Jules R.
 Brewer, Mrs. George E., Jr.
 Brewster, Benjamin
 Brewster, Edward C.
 Briggs, Miss Janet Zaph
 Britwitz, Louis
 Bruce, Miss Audrey
 Bruce, Mrs. Mellon
 Bryce, Mrs. John F. C.
 Bulkley, J. O.
 Bullock, Mrs. Hugh
 Bunker, Arthur H.
 Burbank, Kershaw
 Burch, Lowell R.
 Burden, Mrs. I. Townsend, Jr.
 Burgard, Frederick W.
 Burns, H. S. M.
 Burns, Mrs. Robert E.
 Burton, Howes
 Bush, Mrs. D. Fairfax
 Byng, Mrs. Henry G.
 Callan, William
 Camhi, Meyer
 Camp, Gregory N.
 Campbell, Hilton R.
 Campbell, Mrs. Joseph
 Canfield, Cass
 * Carlisle, Donald T.
 Caron, Kenneth
 Cass, Charles Anderson
 Cates, Louis S.
 Chamberlain, George A.
 Chamberlain, James R.
 Chandler, Mrs. Percy M.
 Chapin, Miss Cornelia Van A.
 Chenery, Christopher T.
 Chenery, Mrs. William L.
 Child, Miss Ruth Auchincloss
 Choate, Mrs. Arthur O.
 Choate, Arthur O., Jr.
 Chubb, Hendon
 Chubb, Mrs. Percy
 Clark, Mrs. Blair
 Clark, David C.
 Clark, Mrs. Donaldson
 Clark, James C.
 Clark, Mrs. LeRoy
 Clark, Mrs. Stephen C.
 Clarkson, Jesse D.
 Clarkson, Mrs. Robert L.
 Clausen, George
 Coakley, Mrs. Henry B.
 Cohane, John P.
 Cohen, Morris
 Cohn, Benno
 Coleman, Stewart P.
 Compton, Mrs. Randolph P.
 Congdon, G. Maurice
 Connelly, Albert R.
 Conroy, Mrs. William H.
 Cook, Mrs. Alfred A.
 Cooper, Dr. Henry S.
 Fenimore
 Corlies, Howard
 Corning, Mrs. H. K.
 Coykendall, Mrs. William E.
 Crane, Mrs. Murray
 Crawford, Frank Russell
 Crispell, Reuben B.
 Cromwell, Jarvis
 Cromwell, Mrs. Livingston
 Crowe, Ambassador Philip K.
 Cumming, C. N. Wentworth
 Cumming, Mrs. Laurence
 Curran, Mrs. Guernsey
 Cutting, Dr. Fulton
 Dalia, Mrs. Joseph
 Damrosch, Dr. Douglas S.
 Darling, Jay N.
 Darnell, Miss Linda
 Darrow, Whitney
 Dater, Mrs. Alfred W.
 Davey, Miss Carolyn
 Davies, Mrs. J. Clarence
 Davis, C. K.
 Davis, Miss Marion
 Davis, Dr. William E.
 Davisson, William Porter
 Debevoise, Paul
 Decroix, Miss Marguerite
 DeFina, Mrs. Joseph G.
 Delacorte, George T., Jr.
 Delano, Mrs. Lyman
 Desmond, Honorable
 Thomas C.
 de Vegvar, Mrs. C. Neuman
 Devereux, Alvin
 Dick, Mrs. William K.
 Dickey, Mrs. Charles D.
 Dillon, C. Douglas
 Dillon, Mrs. Clarence
 Dodd, Miss Natalie M.
 Dodge, Cleveland E.
 Dodge, Donald D.
 Dominick, Mrs. G. G.
 Donaldson, Coleman duPont
 Donnerfeld, Dr. Alvin M.
 Dorland, Mrs. M. M.
 Doubleday, James M.
 Dougherty, William A.
 Downey, John I.
 Downs, Wilbur
 Downs, Mrs. Wilbur
 Drysdale, George R.
 Duffy, Mrs. Marguerite E.
 Dumaresq, John E.
 Du Nouy, Mrs. Lecomte
 Du Pont, Henry F.
 Du Pont, Irene
 Duvernoy, Russell E.
 Dvorin, Bob
 Dwight, Mrs. Winthrop E.
 *Eagle, Mrs. J. Frederick
 Eckart, Edmund
 Eder, Phanor J.
 Edmonds, Dean S.
 Eggers, Mrs. Carl

*Deceased

Eisner, Gerald
 Eldrige, Harry
 Elliott, Mrs. John, Jr.
 Elliott, Mrs. Osborn
 Ellsworth, Duncan S.
 Ellsworth, John S., Sr.
 Embury, Edward Coe
 Erdmann, Dr. Albert J., Jr.
 Erickson, Mrs. A. W.
 Ernst, Howard M.
 Erskine, Howard M.
 Eskesen, Mrs. T. R.
 Eustis, Allen C., Jr.
 *Evans, Miss Della J.
 Evans, Mrs. John C.
 Fairchild, Mrs. L. W.
 Farrell, James A., Jr.
 Faulkner, Mrs. F. Sheffield
 Ferguson, Mrs. Florence R.
 Ferguson, Miss Frances
 Field, Malcom G.
 Filley, Mrs. Oliver D.
 Finneran, Edward T.
 Fisher, Henry J.
 Flagg, W. A.
 Flagg, Mrs. W. A.
 Flandrau, Mrs. Blair
 Flanigan, Horace C.
 Foote, Mrs. William
 Fortunato, D.
 Foster, Robert
 Fowler, Miss Ann A.
 Frank, William K.
 Fraser, John
 Frederick, Mrs. Leopold
 Freeman, Mrs. Edward W.
 Freese, Fred J.
 Frey, Kurt F., Sr.
 Fromm, S. W.
 Fry, Morton H.
 Fuller, Samuel L.
 Galpin, Samuel A.
 Galpin, Mrs. Samuel A.
 Gamble, Mrs. Sidney
 Gambrell, Mrs. Richard
 Gardiner, Mrs. Philip P.
 Gardner, Mrs. Paul E.
 Garner, Master Thomas F., Jr.
 Garnjost, Mrs. Frederick W.
 Garvan, Mrs. Francis P.
 Gates, Mrs. Natalie
 Gay, Edward R.
 Gaylord, Robert M.
 Geis, George F.

Geise, Jacob H.
 *Gerard, Mrs. James W.
 Germond, Paul D.
 Gilbert, Mrs. Benjamin D.
 Gilbert, Mrs. Fitch
 Gillmore, Mrs. Henry van K.
 Gimbel, Mrs. Bernard F.
 Githens, Mrs. W. French
 Gladstone, Julian
 Glazier, Henry S., Jr.
 Glazier, William S.
 Goelet, John
 Goldsmith, C. E.
 Goldsmith, Richard
 Goodwin, James L.
 Gordon, Albert H.
Gordon, Mrs. A. H.
 Grace, Mrs. David
 Graf, William
 Graff, Miss Lois Manton
 Graham, E. B.
 Graham, William J.
 Graustein, Archibald R.
 Graves, Duncan
 Gray, Reginald
 Gray, Mrs. Thomas H., Jr.
 Green, Sheldon R.
 Greenberg, Jerrold
 Greengold, Aaron
 Greenleaf, L. S., Jr.
 Gregg, Albert H.
 Grew, Mrs. Edward W.
 Griffin, William J., Jr.
 Griggs, Miss Mary Livingston
 Grimson, Mrs. S. B.
 Griswold, Mrs. John S.
 Groedel, Harry
 Groopman, Dr. Samuel F.
 Grossman, Mrs. Cyrus B.
 Grosvenor, Melville B.
 Gudernatsch, Dr. F.
 Gulick, Archibald A.
 Gunster, Mrs. Joseph F.
 Guthrie, Henry B.
 Haas, George C.
 Hadley, Morris
 Hain, Andrew M.
 Hale, Mrs. Roger D.
 Hall, Mrs. John H.
 Hallowell, N. Penrose
 Halls, Mrs. William, Jr.
 Halsband, Mrs. Robert
 Halsted, Mrs. Harbeck
 Hamann, Mrs. William A.

Hamblen, Harold E.
 Hamill, Mrs. R. L.
 Hamilton, Dr. Portia
 Hanway, William A.
 Hardenbergh, Thomas E.
 Hardy, Brig. John H.
 Harriman, Mrs. E. Roland
 Harriman, Mrs. W. Avere.
 Harris, Charles C.
 Harris, Duncan G.
 Harrison, Mrs. Alfred C.
 Hart, Stanley
 Hartz, John E.
 Hatch, Mrs. Harold A.
 Hathaway, Stewart S.
 Hatvany, Miss Antonia
 Hatvany, Mrs. Fanny
 Hauth, Herbert C.
 Hayes, Miss Irene
 Hays, Mrs. Edwin D.
 Heimann, Mrs. Richard
 Heineman, Bernard
 Heintz, John E.
 Heinz, H. J., II
 Heinz, Mrs. H. J., II
 Heller, William B.
 Heller, William G.
 Helme, Edward
 Henderson, Dr. Edward
 Henshel, Mrs. Harry B.
 Herrick, Newbold L.
 Hessberg, Edward K.
 Hesse, Miss Janet
 Hewitt, Mrs. Thomas D.
 Heyd, Dr. Charles Gordon
 Heyman, Mrs. David M.
 Higginson, Mrs. Thomas I
 Hillas, Miss Marjorie
 Hills, Mrs. James M.
 Hinrichs, Hans
 Hird, Henry E.
 Hird, Miss Martha
 Hird, Miss Mary E.
 Hirshberg, Eliot P.
 Hoffman, F. Burrall
 Hoffman, John E.
 Hoffman, William W.
 Holbrook, Robert D.
 Holmes, Miss Helen M.
 Holmes, Mrs. Margot A.
 Holsapple, Earle T.
 Homewood, Mrs. Brooke
 Hooper, John W.

*Deceased

Houghton, Arthur A., Jr.
 Howell, W. Huntingt
 Hubbard, Allen S.
 Hubbard Richard L.
 Huffard, Paul P.
 Hun, Samuel Hand
 Hunt, Mrs. Richard C.
 Huntington, Mrs. Archer M.
 Huntington, Miss
 Elizabeth Q.
 Huntington, Mrs. George H.
 Hutchins, Mrs. Waldo, Jr.
 Hutton, Mrs. Edward
 Hyman, Mrs. Abraham
 Igleheart, Austin S.
 Immerblum, Mrs. Edward
 Irwin, William F.
 Iselin, O'Donnell
 Iselin, William O'D.
 Isenberg, A. H.
 Israel, Leon, Jr.
 Isreeli, Jack
 Jackson, Frederick W.
 Jackson, Mrs. Percy
 Jacobi, Lester E.
 Jacobs, Edwin L.
 Jaeger, Fred P.
 James, Mrs. Bayard
 James, Edward
 Jennings, Mrs. B. B.
 Jensen, Miss Margaret I.
 Johnson, Mrs. Wayne
 Jones, C. Maury
 Jones, Clayton B.
 Jones, Kenneth A.
 Jones, Roy E.
 Jones, Miss Ruth W.
 Josephs, Mrs. Devereux C.
 Judson, Miss Helen
 Kaplan, M. C.
 Katz, Al
 Kean, Robert W., Jr.
 Kean, Robert Winthrop
 Kenedy, Louis
 Kennedy, Mrs. Arthur
 Kent, Mrs. Richard Peabody
 *Kerr, Lewis S., Jr.
 Kessler, Joseph N.
 Kim, William
 King, Charles Glen
 King, Frederick P.
 Kingsford, Daniel
 Kingsford, Irving B.
 Kingsley, Darwin P., Jr.
 *Deceased
 Kinney, Mrs. Warren
 Kirkham, Dr. Frederic T., Jr.
 Kirkland, Mrs. William R., Jr.
 Kissel, Mrs. W. Thorn
 Kiuttu, Charles
 Kleitz, William L.
 Knaplund, Paul W.
 Knight, Dr. George H. H.
 Knight, Mrs. Iris D.
 Knight, Rufus H.
 Knobloch, Henry F. J.
 Kopelson, Mrs. Kenneth
 Kosmak, Mrs. George W.
 Kraemer, Alfred Robert
 Kratovil, Mrs. Emil
 Krumb, Henry
 Lamont, Mrs. Corliss
 Landeck, Walter V.
 Lane, Mrs. William H.
 Lanman, Dr. Jonathan T.
 Larkin, Frank Y.
 Laughlin, Thomas I.
 Lawrence, Mrs. James F.
 Leach, Henry Goddard
 Lee, James T.
 Leffingwell, Russell C.
 Lehman, Mrs. Herbert H.
 Leonhardt, F. H.
 Lerch, F. H., Jr.
 Levey, Charles Bispham
 Levey, Miss Margaret
 Bispham
 Levi, Julian Clarence
 Levin, N. W.
 Levitt, Mrs. Edward T.
 Levy, Dr. David M.
 Lewine, Jerome
 Lewis, George W.
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 Linder, Harold F.
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 Livingston, John H.
 Llavallol, Jaime
 Lockwood, Luke B.
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 DeForest
 Mann, Alan N.
 Marks, Carl
 Marshall, Walter P.
 Marston, Edgar J.
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 Martin, Shelton E.
 Martin, Mrs. Shelton E.
 Martini, Mrs. Fred
 Matthiessen, Erard A.
 Mayer, Mrs. Edgar
 Mayer, John
 Mayer, Mrs. John
 Mayer, Mrs. John A.
 Mayer, Myron
 Maynard, Richard S.
 Mazur, Mrs. Paul
 McAlpin, David H., Jr.
 McCann, F. W.
 McCann, Jonathan W.
 McClintock, Gilbert S.
 McClung, Richard G.
 McCombs, Dr. A. P.
 McCormack, Mrs. Alfred
 McCormick, Miss Mildred
 McCulloh, J. S.
 McDonnell, Hubert
 McElroy, Mrs. Thora Ronalds
 McGee, Clifford W.
 McIntosh, Allan J.
 McKee, Robert E.
 McKelvy, Mrs. Robert
 McLane, Huntington
 McLane, Mrs. Huntington
 McNulty, Harold C.
 Meade, George P.
 Meagher, Edward C.
 Mechin, R. J.
 Meeder, William H., Jr.
 Megear, Mrs. Thomas J.
 Mellon, Miss Eleanor M.
 Melville, Ward
 Mendelsohn, Walter
 Merrill, F. Hamilton, Jr.
 Merritt, Mrs. Walter Gordon
 Meyer, Maurice, Jr.
 Migel, Richard H.
 Miles, Mrs. E. W.
 Mills, Dudley H.

Milmine, Mrs. George P.
 Milmine, Miss Katherine
 Model, Mrs. Jean
 Moench, Gerard L.
 Mohun, C. Peabody
 Montgomery, Mrs. Robert
 Moore, George G., Jr.
 Moore, Mrs. Louis De B.
 Moose, Edward
 Moran, Eugene F., Jr.
 Morehead, John M.
 Morgan, Henry S.
 Mosenthal, Mrs. Herman O.
 Moses, Mrs. Henry L.
 Moucha, E.
 Moyer, Miss Eleanor
 Muir, Malcolm
 Munroe, Miss Antonia
 Myers, Mrs. Cornell
 Myerson, Joseph G.
 Mylod, Charles J.
 Myrin, Mrs. Alarik
 Nehrbas, Harold A.
 Nestel, Walter
 Neuberger, Roy R.
 Newburger, Com. Morton J.
 Newton, Edward K.
 Newton, Maurice
 Nichols, Charles W., Jr.
 Nichols, Mrs. Charles W., Jr.
 Nichols, Mrs. George
 Nichols, Mrs. Morton C.
 Nicholson, Mrs. G. J. Guthrie
 Nields, John W.
 Nisselbaum, Charles B.
 Noerr, Robert
 Nourse, Mrs. Charles J.
 Nyselius, Gustav
 O'Connell, Dr. William J.
 Oeste, Miss Marion
 Ogden, Dr. Herbert S.
 Ohlandt, B. C.
 Olmsted, Mrs. Henry C.
 Ordway, Miss Ellen
 Ordway, Miss Katharine
 Osborn, Earl D.
 Osborn, Mrs. Frederick
 Osborn, Mrs. John J.
 Osborne, Mrs. Dean C.
 Osborne, John A.
 Ostroga, Seymour
 Otto, Elmer C.
 Outerbridge, Frank R.
 Page, Robert G.

Paine, Hugh E.
 Painter, Carl W.
 Paley, William S.
 Paley, Mrs. William S.
 Palmer, Carleton H.
 Parish, R. L.
 Park, Ben
 Parsons, Miss Katharine deB.
 Peabody, Miss Amelia
 Peabody, James Bishop
 Pease, Perry R.
 Peck, A. Wells
 Peck, Mrs. Charles R.
 Perkins, George W.
 Perkins, Mrs. George W.
 Perrin, Lester W.
 Pforzheimer, Carl H.
 Phipps, John S.
 Pierrepont, John
 Pierrepont, Mrs. R.
 Stuyvesant
 Pierson, Henry L.
 Pinney, Edward S.
 Pitt, Mrs. Malcolm
 Pollard, L. Douglas
 Pool, Dr. Lawrence
 Poor, Mrs. Walter S.
 Porter, Hugh
 Post, William G.
 Potter, Warwick
 Pottier, Auguste R.
 *Potts, Charles E.
 Pratt, H. Irving
 Pratt, John T., Jr.
 Pratt, Richardson
 Pratt, Sherman
 Prescott, Orville
 Preston, Mrs. William P. T.
 Pruyne, Dr. F. Morgan
 Puckhafer, George R.
 Radley, Mrs. John J.
 Randolph, Mrs. S. B.
 Rasmus, William T.
 Ratcliffe, George L.
 Reynolds, Mrs. David R.
 Reed, Mrs. Chester T.
 Reisser, Dr. Otto H.
 Rentschler, Mrs. Gordon S.
 Revedin, Marchesa M.
 Revits, Samuel
 Rice, Mrs. A. Hamilton
 Richard, Mrs. Harold C.
 Richards, Archibald M.
 Richardson, David L.

Riegel, Mrs. Benjamin
 DeWitt
 Riley, Dr. Conrad M.
 Riley, Mrs. Conrad M.
 Riley Mrs. James W.
 Ripley, James H.
 Ripley, Julien A.
 Ritchie, Alfred A.
 Robb, Alexander F.
 Roberts, George
 Rockefeller, William A.
 Rodgers, William S. S.
 Roosevelt, Mrs. George E.
 Ros, Mrs. Salvador
 Rose, Alfred L.
 Rosenfeld, Ernest
 Roth, Mrs. William P.
 Rowland, Benjamin, Jr.
 Royster, Mrs. Thomas S., J.
 Ruml, Mrs. B.
 Rumsey, Charles C.
 Rusk, Dean
 Russell, Harry A.
 Rutherford, Mrs. John
 Sadowsky, Carl R.
 St. John, T. Raymond
 Saner, William R.
 Sargent, Miss Kathrine A.
 Satin, Mrs. Martha
 *Saunders, Bertram H.
 Saunty, Joseph V.
 Sawyer, Mrs. Albert E.
 Scaife, Alan M.
 Scales, Mrs. Mildred B.
 Schenker, Dr. A.
 Scherman, Mrs. Harry
 Schimmelpfeng, H. W.
 Schneller, George O.
 Schoenburg, Mrs. Peter
 Scholle, William D.
 Scholtz, Mrs. Janos
 Schulte, Mrs. David A.
 Schur, Ira A.
 Schwarz, Miss Emily E.
 Schwarz, Herbert F.
 Scott, Mrs. Stuart
 Scribner, Charles T.
 Scudder, Miss Antoinette Q.
 Sears, Mrs. Henry
 Sears, Henry F., Jr.
 Sedgwick, Mrs. Francis M.
 Selig, Mrs. R. F.
 Seymour, Whitney N.
 Sheldon, Peter

*Deceased

Sheridan, Philip
 Shey, Dr. Irving Alfred
 Simmons, Sanford G.
 Sinclair, Mrs. Jennie H.
 Slaughter, Mrs. Charles
 Slavic, Mrs. Fred
 Smillie, Ralph
 Smith, Ellison Ward
 Smith, Francis M.
 Smith, Miss Gertrude
 Robinson
 Smith, Mrs. Hayden
 Smith, Thomas L.
 Smith, Winthrop H., Jr.
 Smithers, C. Francis
 Smull, Mrs. J. Barstow
 Snyder, Mrs. Frank V.
 Sobel, Dr. Raymond
 Sonfield, Charles
 Spalding, Mrs. Albert
 Spalding, M. Boardman
 Sparrow, John Sherwood
 Spier, Mrs. June Havoc
 Spooner, Ray Newhall
 Sprague, Raymond
 Stanley, Harold
 Staub, Harry
 Stawitz, Frederick J.
 Stebbins, Mrs. Horace C.
 Stebbins, Theodore E.
 Steiger, Harold
 Stein, Dr. Kenneth E.
 Stein, Meyer
 Steinhardt, Mrs. Frederick J.
 Stellar, Dr. Stanley
 Sterling, Mrs. Robert D.
 Stetson, J. P.
 Stevens, Miss Viola G.
 Stewart, Miss G. Marieta
 Stillman, Mrs. Jay
 Stoddard, William
 Stokes, J. G. Phelps
 Stokes, Mrs. J. G.
 *Storck, Henry F.
 Stotz, Norman I.
 Stout, Mrs. Andrew V.
 Stover, Robert C.
 Straub, Paul A.
 Straus, Donald B.
 Strauss, Mrs. Philip A.
 Sturges, Mrs. Walter Knight,
 Jr.
 Stuyvesant, Peter
 Sudman, Victor J.

Sulzberger, Arthur Hays
 Sulzberger, Mrs. Arthur Hays
 Surkamp, Arthur
 Symington, Charles J.
 Swan, Mrs. Thomas W.
 Swenson, S. R.
 Swift, Mrs. Edward F., Jr.
 Swift, Harold H.
 Switz, Mrs. Paul F.
 Swope, John
 Szanto, Dr. Emery
 Talbott, H. E.
 Tate, Mrs. H. Clinch
 Taylor, Mrs. Henry C.
 Taylor, Mrs. Read
 Temple, Dr. H. L.
 *Ten Eick, William A.
 Terry, John T.
 Thacher, Mrs. John S.
 Thatcher, Mrs. James L.
 Thomas, Joseph A.
 Thompson, Earle S.
 Thompson, Mrs. Lewis S.
 Thorne, Oakleigh L.
 Timolat, James G., Jr.
 Timolat, Louis K.
 Titus, Mrs. Robert R.
 Todd, Mrs. Russell W.
 Tomlinson, R. E.
 Townsend, Edward P.
 Tozzer, Mrs. Alfred M.
 Tozzer, Mrs. Isabel Kellers
 Tree, Ronald
 Trimble, Mrs. M. Brown
 Tuchman, Miss Lucy
 Tucker, Carll, Jr.
 Tucker, Mrs. Carll
 Tucker, Mrs. John
 Tucker, Mrs. Nion
 Tudor-Hart, Mrs. Percyval
 Tully, Miss Alice
 Tunney, Mrs. Gene
 Turner, Mrs. Huntington M.
 Turner, Lewis
 Urban, Dr. Jerome A.
 Van Allen, Miss Betsy
 Vanderbilt, William H.
 Vanderpoel, Mrs. Floyd L.
 Van Dyke, Mrs. Tertius
 Van Norden, Miss Margery L.
 Van Raalte, Arthur
 Van Valey, Dr. Edwin C.
 Van Vleck, Howard A.
 Varona, Luis S., Jr.

Von Au, Mrs. Otto E.
 von Hennig, Horst
 von Meiss-Teuffen, Mrs. Hans
 von Stade, Mrs. F. Skiddy
 Vretta, Carl
 Vuilleumier, Dr. J. A.
 Waddell, Mrs. Chauncey L.
 Wagstaff, Hunt T.
 Walden, Ulysses D. E.
 Waldes, Milo
 Walker, Louis E.
 Walker, Miss Miriam Dwight
 Walton, Rudolph L.
 Warburg, Mrs. Felix M.
 Warburg, Frederick M.
 Warburg, Paul Felix
 Ward, Miss Winifred S.
 Wardwell, Miss Alice W.
 Wardwell, Mrs. Edward R.
 Warfield, Ethelbert
 Waterman, Robert E.
 Watkins, John B.
 Watson, Mrs. Jeannette
 Watson, Mrs. Thomas J.
 Weaver, Mrs. William B., Jr.
 Webb, Mrs. Vanderbilt
 Weber, Mrs. John J.
 Webster, Dr. Jerome P.
 Weiden, Norman
 Weil, Frank
 Wellington, C. Oliver
 Wells, Dr. Gibson J.
 Wentink, Mrs. J. G.
 West, Mrs. Davenport
 Whipple, Mrs. Taggart
 Whitaker, George W.
 White, Harold T., Jr.
 Whitman, Bret Harte, Jr.
 Whitman, Gerald
 Whitney, Mrs. Howard F., Sr.
 Whitridge, Arnold
 Whitridge, Mrs. Arnold
 Wile, Edwin
 Willetts, William P.
 Willetts, Mrs. William P.
 Williams, Mrs. Alexander
 Williams, Dr. Byard
 Williamson, Clifton P.
 Wilmerding, Mrs. Lucius
 Wilson, Orme
 Wilson, Mrs. Paul E.
 Winter, Dwight
 Wolff, Henry J.
 *Wood, Ernest N.

*Deceased

Woodward, Cedric R.
Woodward, Mrs. Julian L.
Woolf, Mrs. Louis J.
Worcester, Dean K.

Wrenn, Philip W., Jr.
Wright, Mrs. Claire R.
Wright, John S.
Wurzbach, Dr. Frederick A.,
Jr.

Yohai, Morrie R.
Young, Howard
Zabriskie, Christian A.
Zepp, Dr. Clarence P., Jr.

Annual Members

Abbott, Mrs. Theodore J.
Abella, Luis, Jr.
Abeloff, Dr. Abram J.
Abrahams, Michael M.
Abrams, Mrs. Beverly W.
Achelis, John Fritz
Adams, Frederick B.
Adams, John C.
Adams, Mrs. Pierpont
Adams, Dr. Warren S.
Addison, William H.
*Adee, Mrs. Ernest R.
Adler, Dr. Howard
Adler, Siegmund
Agathon, Oshin
Agnew, A. Gifford
Agnew, Cornelius R., Jr.
Aiken, Mrs. F. E.
Akston, Mrs. Joseph James
Aldrich, Miss Amey Owen
Alexander, A. B.
Alexandre, Miss Anna R.
Allen, Charles, Jr.
Allen, Charles W.
Allen, Mrs. Ethan
Allen, Mrs. Jean P.
Allen, John B. E.
Allentuck, Dr. Samuel
Allyn, Stanley C.
Alsleben, Alfred A.
Ames, Ward
Anderson, Douglas W.
Anderson, Lewis N.
Anderson, Mrs. William
Andrews, A. M., Jr.
Andrews, Dr. George C.
Andriesse, Albert
Ansbacher, D. A.
Anthony, Mrs. Paul L.
Apogi, Dr. Evelyn
Appel, Mrs. George I.
Applebaum, Dr. Edmund
Armour, William
Armstrong, Dr. Edward McP.

Arnheim, Alvin J.
Arnold, Miss Frances
Aronson, Bernard
Aronow, Joseph Mitchell
Arthur, Mrs. Donald T.
Asch, David
Askin, Seymour R.
Atkins, Dr. Elisha
Auchincloss, C. C.
Auerbach, Miss Barbara Ellen
Aufricht, Dr. Gustave
Ault, Mrs. Lee
Averbeck, M. J., Jr.
Averett, Mrs. Elliott
Axelrod, Herbert R.
Ayers, Miss Isabelle M.
Babcock, Hugh H.
Babcock, Robert O.
Backus, Mrs. Dana C.
Bacon, Mrs. Antoinette
Bacon, Mrs. Robert Low
Bacon, Rogers H.
Baer, Sidney
Baer, William B.
Bahnsen, Mrs. Henry
Baker, Dr. Alice T.
Bakhmeteff, Mrs. Boris A.
Baldwin, Mrs. William H.
Ball, Robert E.
Ballantine, Arthur A.
Ballantyne, A. M.
Ballentine, Mrs. Albert W.
Balsam, Michael
Bandes, Mrs. Herbert
Bangs, Francis N.
Barclay, Mrs. Reginald
Bareiss, Walter
Barker, Miss Elizabeth
Barlow, William E.
Barlow, Mrs. S. L. M.
Barnard, J. Augustus
Barnard, Robert E.
Barnett, Arthur L.
Baronio, Franco A.

Barreto, Mrs. Blanche
Barrow, Mrs. Archibald
Barton, Mrs. S. G.
Basner, Austin E.
Bass, Dr. Murray H.
Bassett, Carroll K.
Bastedo, Mrs. Philip
Bastian, Dr. Robert
Battey, William Earle
Baylek, Dr. Thomas W.
Beach, C. A.
Beadel, Henry L.
Beadleston, Miss Edith
Beal, Mrs. Gerald F.
Beals, John D., Jr.
Beard, Stanley D.
Betchtel, Mrs. Edwin DeT.
Becker, Edward L.
Bedichek, Mrs. B. G.
Bein, Miss Martha
Bell, Frank K.
Bellamy, Mrs. F. Wilder
Belmont, Lt. Joseph P.
Bender, Mrs. Morris B.
Benedict, Elliot S.
Benet, Miss Laura
Benjamin, Mrs. William M.
Benkard, Franklin
Bennett, Lawrence
Bent, George Payne, 2nd
Berch, Barnett
Berg, Mrs. Hunter
Bergamini, Dr. Herbert V. W.
Bergh, Philip
Berlin, Mrs. F. Henry, Jr.
Bernard, Dr. Richard
Bernheimer, Sidney G.
Bernstein, Jerome W.
Berry, Roger W.
Bertheau, Cesar J.
Best, Mrs. Charles B.
Biberman, David
Bicher, Robert B.
Bierman, D. H.

*Deceased

Binder, Edwin A.
 Birch, Mrs. John F.
 *Birchall, Miss Katharine H.
 Bird, S. Hinman
 Bird, Mrs. S. Hinman
 Birdseye, Miss Mary Platt
 Birnbaum, Martin
 Bischel, Henry V.
 Bischoff, Miss E. May
 Bissell, Mrs. George H.
 Black, Miss Ellen E.
 Blackham, Wilfrid
 Blanco, Juan Carlos, Jr.
 Bliss, Mrs. Walter P.
 Blodgett, Mrs. Thomas H.
 Blond, Abraham
 Bloom, Mrs. William H.
 Bloomingdale, Samuel J.
 Blossom, Mrs. Dudley S.
 Blount, Robert E.
 Blum, Paul
 Blumenfeld, Dr. Emanuel
 Blumenthal, Mrs. Sidney
 Boardman, Mrs. Bradford
 Boardman, Kenneth
 Boardman, Mrs. Kenneth
 Boardman, Miss Rosina C.
 Bocher, Main
 Boegehold, Mrs. E. S.
 Boissevain, Mrs. Adolphe
 Bond, Mrs. Stephen N.
 Booher, Edward E.
 Booth, Willis H.
 Borden, Mrs. John C.
 Borden, Richard
 *Borg, Mrs. Sidney C.
 Bori, Miss Lucrezia
 Borish, Mrs. M. E.
 Bostwick, Dunbar W.
 Bott, Mrs. George
 Botzow, Mrs. William G. F.
 Bouman, Mrs. Leonard F.
 Bourne, Mrs. Robert C.
 Boyce, Arthur C.
 Boyer, Mrs. Philip
 Boylan, Mrs. Anne
 Braaten, Arthur P.
 Brace, Mrs. Donald C.
 Braga, B. Rionda
 Braga, George A.
 Brand, Mrs. Albert R.
 Brassard, Dr. J. A.
 Bratter, Edward M.
 Brecher, Leo
 Breslin, Mrs. L. R., Jr.
 Brice, Mrs. Helen E.
 Brick, George H.
 Bridgewater, Mrs. William
 Briggs, Mrs. Bertha N.
 Brody, Bernie
 Brody, David A.
 *Bromfield, Louis
 Brooks, Ernest, Jr.
 Brooks, George A.
 Brown, Charles S.
 Brown, Col. Edward F.
 Brown, Dr. George
 Brown, James M.
 Brown, Robert A.
 Brown, Vernon H.
 Browne, Miss Frances
 Browne, Gilbert G.
 Bruckmann, John C.
 Bruell, Frederick
 Brundin, Y. Pierre
 Bryant, Miss Penny
 Bryer, Jackson R.
 Buchheister, Carl W.
 Buck, Ellsworth B.
 Buckbee, George E.
 Buckley, Jere D.
 Bucklin, Mrs. Harris H., Jr.
 Bucky, Dr. Thomas Lee
 Bugbee, Mrs. Henry G.
 Bulkley, David T.
 Bulkley, Mrs. David Tod
 Bull, Mrs. Ludlow
 Bullowa, Mrs. David M.
 Buonocore, Catello H.
 Burchell, Henry
 Burckardt, Miss Magdalena
 Burden, James A.
 Burden, Mrs. W. A. M.
 Burdett, Dr. Fletcher H.
 Burdsall, Benjamin R.
 Burgess, Thornton W.
 Burlingame, Mrs. Frederic A.
 Burlingham, Charles
 Burlingham, Mrs. Charles
 Burlingham, Charles C.
 Burnett, Mrs. R. Peyton
 Burns, Kenneth
 Burpee, George W.
 Burr, Andrew, Jr.
 Burton, John H., 2nd
 Bushnell, Mrs. Ericsson F.
 Butler, Mrs. Arthur W.
 Butt, John D.
 Butterfield, Miss Alice D.
 Butterworth, Mrs. F. S.
 Byrne, Mrs. Robert M.
 Cabot, Mrs. Francis H., Jr.
 Cabot, Mrs. Henry B.
 Caesar, Harry I.
 Cafferty, Mrs. Martin
 Cahners, Mrs. Fulton
 Cain, Byron B., Jr.
 Caire, Mrs. Laure C.
 Caldwell, Mrs. Charles W.
 Callahan, Mrs. Carmen V.
 Callahan, Thomas V.
 Cameron, Kirk L.
 Cammann, Mrs. H. Schuyler
 Camp, Frederic E.
 Campbell, Mrs. Marta P.
 Campbell, Dr. Eleanor A.
 Cane, Melville H.
 Canfield, Mrs. Cass
 Cann, T. G. P.
 Cannon, Mrs. Joseph M.
 Caplin, Stuart
 Capurso, Dr. George James
 Cardillo, Dr. John
 Carey, Mrs. Andrew
 Galbraith
 Carey, John P.
 Carle, Mrs. R. W.
 Carley, James
 Carlisle, Mrs. John
 Carpenter, Fairbank
 Carpenter, William M.
 Carroll, G. Wyman
 Carroll, Philip A.
 Carson, Mrs. J. Henry
 *Cartwright, Mrs. Beatrice B.
 Cary, Mrs. C. Reed
 Casamajor, Dr. Louis
 Casamajor, Miss Martha
 Cecil, Dr. Russell L.
 Chambers, Mrs. Robert A.
 Chandler, William R.
 Chase, Mrs. G. T.
 Chase, Kenneth S.
 Chauncey, Miss Emily
 Chester, Mrs. Hawley T.
 Chew, Mrs. Philip F.
 Chiang, Yee
 Childs, Edward C.
 Choate, Arthur O.
 Choate, Miss Mabel
 Choate, Mrs. Whitney Bourne
 Christensen, Dr. L. R.

Deceased

Chubb, James Parsons
 Church, Austin
 Church, Mrs. Charles T.
 Church, Mrs. Willard
 Cizek, Dr. Louis J.
 Clark, Mrs. Harold Benjamin
 Clark, Harold T.
 Clark, H. Huber
 Clark, Mrs. William Andrews
 Clark, W. T.
 Clarkson, Mrs. Christopher
 Clayburgh, Mrs. A. H.
 Clayburgh, Mme. Alma
 Cleghorn, Albert E.
 Clements, Theron A.
 Cleveland, Mrs. S. Park
 Clowes, Miss M. H.
 Clyde, William P.
 Cobb, Boughton
 Cochu, Ferdinand
 Coffey, Miss Katherine
 Cohen, Arthur J.
 Cohen, Mrs. Arthur J.
 Cohen, Edward I.
 Cohen, Dr. Herbert George
 Colbron, Miss Barbara
 Cole, Charles H.
 Cole, Dr. C. Monford
 Coleman, Joseph A.
 Coleman, Leighton
 Colgate, Henry A.
 Colgate, Mrs. John K.
 Collier, Mrs. R. J.
 Collins, Miss Elizabeth E.
 Colt, Harris D.
 Comfort, Mrs. Lowell R.
 Conde, Miss Corinne
 Congdon, Lee
 Conklin, Mrs. Joseph
 Connally, M. G.
 Connick, Arthur E.
 Coogan, Mrs. Jay
 Cook, Mrs. Hobart
 Cooke, Carleton S.
 Cooke, Thomas F.
 Coolidge, Henry Parsons
 Coolidge, John T.
 Cooney, Mrs. Edwin W.
 Cooper, Fred
 Cooper, J. W.
 Cooper, W. M.
 Corbin, Mrs. John
 Corbin, R. Beverley
 Cormier, Francis

Corning, Miss Ursula
 Cortesi, Miss Katharine P.
 Corwin, Saul C.
 Costigan, Philip J.
 Coudert, Ferdinand W.
 Cowdin, J. Cheever
 Cowles, William Sheffield
 Cox, Joseph John
 Cragin, Donald Wilson
 Crawford, Mrs. Charles A.
 Crawley, Mrs. John C.
 Creighton, Gerald J.
 Cresson, Mrs. William Penn
 Crimmins, Miss Mary
 Crimmins, Thomas
 Crocker, George A.
 Crohn, Mrs. Burrill B.
 Cromwell, Mrs. Lincoln
 Cronquist, N. R.
 Cross, Mrs. John W.
 Crouse, Master Timothy
 Crowell, Dr. David L.
 Crowley, Dr. Ralph M.
 Crowninshield, Mrs.
 Francis B.
 Cruger, Frederic H.
 Cuddihy, Arthur B.
 Cullman, Edgar M.
 Cullman, Mrs. Edgar M.
 Cullman, Howard S.
 Cullman, Mrs. Joseph F., Jr.
 Cunningham, Mrs. Edward A.
 Curtis, Mrs. Edward P.
 Curtis, Miss H. S.
 Cushman, Paul
 Czajkowski, Dr. Richard J.
 Dailey, Mrs. Clarke G.
 Dallett, Mrs. Frederic A.
 Daly, D. Loughran
 Dammann, Milton
 Dana, Miss Mary H.
 Dane, Ernest B., Jr.
 Daniels, Miss Julia
 Danzig, Dr. Samuel D.
 Darlington, Mrs. Herbert S.
 Darrell, Norris
 Daugharty, Miss Angela
 Davenport, Mrs. Frederick
 M., Jr.
 Davenport, Henry J.
 Davey, Miss Florence
 Davidson, Miss Margaret
 Davies, Frederick M.
 Davis, Mrs. Jane Quinn

Davis, Joseph A., Jr.
 Davis, Morgan
 Davison, Mrs. Henry
 Pomeroy
 Day, Miss Florence E.
 Day, Watson Beach
 Dearden, Miss E. C.
 Debevoise, Thomas M.
 deBrun, Miss Else S.
 De Cesare, John
 de Coppet, Miss Gertrud
 de Diego, Mrs. Julio
 Deering, Mrs. William R.
 Degener, John F., Jr.
 deGersdorff, Mrs. C. C.
 deGroot, Miss Adelaide M.
 de Kay, Mrs. Sidney
 Delacorte, Albert P.
 Delafield, Lewis L.
 De Lamar, Miss Alice
 Delaney, John B.
 Dembow, George F.
 de Montmorin St. Herem,
 Comtesse
 Denby, Edwin H.
 Dennison, Miss Diane
 Denny, Miss Rose
 De Rham, Casimir
 De Rham, Mrs. Charles, Jr.
 Despard, Clement L.
 Detmer, Julian F.
 Deutsch, Mrs. Richard
 Devins, Mrs. Margaret
 de Wasserman, Miss Annie
 Dick, Mrs. F. R.
 Dienst, H. C., Jr.
 Dietz, Gerry J.
 Dietz, Mrs. Howard
 Dimondstein, Mrs. Herber
 Dineen, Dr. Peter
 Dinin, Dr. A. Philip
 Di Santagnese, Miss Valer
 Disney, Walt
 Dix, Mrs. John A.
 Dix, Monroe L.
 Dobkin, Mrs. Julius
 Dodge, Mrs. C. E.
 Dolan, Dr. E. John
 Dominick, Gayer G.
 *Dominick, Lamont
 Dondero, Miss Marietta
 Joan
 Doolittle, Miss Ethelwyn
 Dorfman, Mrs. May

*Deceased

Dorr, John V. N.
 Doscher, Mrs. Charles
 Doubleday, G. Chester
 Doubleday, George
 Doubleday, Mrs. Nelson
 Dougall, Arthur B.
 Doughty, John C.
 Douglas, Lewis W.
 Drake, Mrs. Orville G.
 Draper, Paul A.
 Draper, Miss Ruth
 Dreher, Elmer
 Dresnick, Mrs. Natalie K.
 Drimmer, Harold L.
 Drohan, Mrs. William J.
 Droutzkoy, Mrs. Maria
 Theresa
 Drowne, Mrs. H. Russell, Jr.
 Duane, Mrs. Carolyn P.
 Duane, John P.
 Du Bois, Miss Margaret
 Dubois, Randall M.
 Dubovsky, Dr. Mortimer
 Duke, Miss Doris
 Dumas, M. G.
 Duncan, Stuart
 Dunham, Mrs. Samuel G.
 Dunning, John S.
 Dunphrey, Robert F.
 Durant, Mrs. Donald
 Duryee, Samuel S.
 Dutch, Miss Elizabeth
 Earle, Miss Audrey V. E.
 Easby, Mrs. Dudley T., Jr.
 Eaton, David C.
 Eberstadt, F.
 Eckert, H. William
 Edelman, Mrs. Albert
 Edgar, James A.
 Edgar, William
 *Edgerton, Mrs. Malcolm J.
 Edwards, John G.
 Egan, Dr. George F.
 Ehrich, Mrs. Jules
 Ehrmann, Dr. Rudolf R.
 Eidlitz, Mrs. Ernest
 Frederick
 Eisen, Dr. Nathan
 Eisenberg, Richard
 Eisenmenger, Dr. William J.
 Elia, Mrs. Joseph C.
 Eliscu, Miss Lita
 Eliscu, Webb
 Elkind, Arthur H.
 Ellenberg, Dr. Max
 Elliman, Douglas L.
 Ellsworth, John E.
 Elvidge, Dr. Arthur R.
 Emanuel, Henderson
 Embury, Mrs. Jane S.
 Engel, Dr. Sol
 Engle, George D.
 English, Richard L.
 English, William H., Jr.
 Engstrom, C. William
 Erger, Dr. B. D.
 Erlanger, Michael
 Erlanger, Milton S.
 Evans, Mrs. Alice R.
 Evans, Mrs. Morgan D., Jr.
 Everett, Miss Roberta
 Ewart, Lady Talbot
 Fagg, Charles C.
 Fairchild, Benjamin T.
 Fajans, Irving J.
 Falconer, Miss Margaret
 Falk, Myron S., Jr.
 Faragoh, Miss Susan
 Farber, George
 Farber, I. J.
 *Farley, Edward P.
 Farquhar, Miss Dorcas
 Farquhar, Miss Karen
 Farr, Dr. Charles E.
 Farr, H. Bartow
 Farr, John
 *Farrelly, Theodore S.
 Fassino, Dr. Anthony J.
 Fearey, Mrs. Morton
 Feibush, Mrs. Joseph
 Feist, Seymour
 Felberbaum, Dr. Alfred S.
 Feldman, Paul A.
 Felsher, Hal-Curtis
 Felton, Mrs. Cornelius C.
 Ferber, Fred
 Ferber, Dr. Robert
 Ferrer, Mrs. J. M.
 Feuer, Master Jed
 Field, Marshall, III
 Field, Dr. William W.
 Fields, Miss Laura
 Fincke, Reginald
 Findley, Paul B.
 Fine, Alexander
 Finkel, Leonard E.
 Fishman, Irving
 Fisk, Mrs. Shirley C.
 Fitzhugh, Miss Marion E.
 Fitzpatrick, Paul
 Flag, Mrs. S. Griswold
 Fleischmann, Mrs. Udo M.
 Fleischnick, Seymour
 Fluekiger, Miss Dora
 Whitman
 Foley, George W.
 Fondiller, Mrs. Richard
 Forbes, John Ripley
 Ford, Mrs. Howeth T.
 Ford, Sumner
 Forman, William B., Jr.
 Forscher, Martin
 Forshay, Edward
 Forster, Mrs. Jo Ann
 Forsyth, Miss Adele G.
 Forsyth, Mrs. Harry
 Fosdick, Mrs. Paulding
 Foss, Mrs. Wilson P., III
 Foster, Stephen
 Foster, Dr. William J.
 Fowler, Miss Agnes
 Fowler, James A., III
 Fox, Miss Alice Bleecker
 Fox, E. Tunnickliff
 Fox, Kelly
 Fox, Master Michael
 Fox, Master Ralph
 Foy, Mrs. Byron C.
 Francescatti, Mrs. Yolande
 Francescatti, Zino
 Frank, Alexander
 Frank, Charles
 Frank, Mrs. Emma O.
 Frank, Dr. Richard L.
 Frankel, Miss Betty
 Franklin, Curtis
 Franklin, Joseph K.
 Fraser, George C.
 Frederick, Karl T.
 Freeman, Miss Gladys M.
 Freiden, Jesse
 Frick, Mrs. Henry Clay
 Fricke, Mrs. D. Carl
 Friedlaender, Mrs. Helmut N.
 Friedman, Dr. Alexander L.
 Frissel, Miss Toni
 Frost, Frederick G., Jr.
 Frost, John W.
 Frothingham, William I.
 Fulton, R. Arthur
 Fulton, Robert A., Jr.
 Funk, Wilfred

*Deceased

Futuyma, Douglas Joel
 Gadebusch, Paul H.
 Gaerste, John L.
 Gaillard, William D.
 Gair, Mrs. Robert
 Gaisman, Henry J.
 Gale, C. Herbert
 Gale, Mrs. Dermot
 Galland, Ned K.
 Gallatin, Mrs. Albert
 Gallatin, Goelet
 Gallick, John S.
 Galm, John
 Gamble, Mrs. David S.
 Garrity, Devin
 Gauss, Mrs. D. Christian
 Gavan, Gordon S.
 Gaver, Gordon P.
 Gavin, Mrs. Michael
 Geddes, Eugene M.
 Geddes, Gerald
 Geer, Dr. Francis G.
 Geer, Mrs. Langdon
 Gehrmann, William H.
 Geist, Milton S.
 Gendel, Dr. Edward
 Gengler, Mrs. Arthur
 Genth, William T.
 Gerber, Julius
 Gerngross, Leo
 Gersen, George H.
 Giampe, Dr. M. L.
 Gibbons, Douglas
 Gibson, Charles D. W.
 Gibson, Mrs. Harvey D.
 Gifford, John
 Gilder, Mrs. Rodman, Jr.
 Gillen, Harold W.
 Gilleran, Carroll
 Gillespie, Gardner F., Jr.
 Gilliard, E. Thomas
 Gilman, Mrs. Stanley H.
 Gimbel, Bernard F.
 Gimbel, Mrs. Louis S., Jr.
 Githens, W. French
 Glazier, Mrs. Henry S.
 Gleason, James L., Jr.
 Goddard, Miss Jessamine
 Goddard, Morrill
 Goddard, Mrs. Morrill
 Godwin, Miss E. L.
 Godwin, Frederick M.
 Goetsch, Mrs. John B.
 Goldfarb, Dr. Norman

Goldin, Mervin J.
 Goldman, Mrs. Jerome R.
 Goldman, Richard S.
 Goldmark, Dr. Carl, Jr.
 Goldrich, Dr. Nathaniel
 Goldschlager, Sidney
 Goldschmidt, Master
 Anthony J.
 Goldschmidt, Mrs. Carel
 Goldsmith, Mrs. Milton M.
 Goldsmith, Robert L.
 Gonzales, Mrs. Julian C.
 Goodbody, Mrs. M. F., Jr.
 Goodell, Raymond B.
 Goodfriend, Dr. Milton J.
 Goodhue, Mrs. Charles E.
 Goodkind, Henry M.
 *Goodman, Herbert S.
 Goodman, Mrs. Herbert S.
 Goodman, Mrs. Joseph
 Goodyear, A. C.
 Goodyear, Mrs. A. C.
 Gordan, Mrs. John D.
 Gorman, Roy S.
 Gorzka, Andre Stephen
 Gott, Rodney C.
 Grace, Mrs. Francis J. S.
 Grace, Oliver R.
 Grady, Mrs. H. A., Jr.
 Grady, Mrs. Hugh Alan
 Graeffe, Edward
 Graff, Howard
 Graham, Dr. John C.
 Grant, David E.
 Grant, L. J.
 Graves, George K., Jr.
 Gray, Phillip
 Green, Herbert, Jr.
 Green, Richard E.
 Greenfield, Frederick
 William
 Gregg, Peter A.
 Gresser, William
 Grier, Miss Lois M.
 Griffin, William V.
 Griffin, Alfred L.
 Grigsby, Miss Susanne
 Grillo, Paul
 Grinnell, Lawrence I.
 Grinnell, Dr. Robert S.
 Griscom, Mrs. Clement A.
 Groesbeck, Mrs. Herbert
 Grose, Waldo
 Gross, Bernard

Gross, Max
 Gross, Simon
 Grosvenor, William
 Grout, Mrs. H. McIntyre, Jr.
 Gruntal, Benedict H.
 Gunnison, Mrs. R. M.
 Gustafson, Robert L.
 Gutermuth, C. R.
 Gutheil, Paul G.
 Gutman, DeWitt
 Guttelman, Dr. Adeline A.
 Guttmacher, Dr. Alan F.
 Guy, Dr. Loren P.
 Gwynne, Mrs. Arthur
 Haberman, Mrs. Phillip, Jr.
 Hack, Randall
 Haendel, Master Teddy
 Haight, Mrs. Sherman Post
 Haldt, Harry Peale
 Haldt, Mrs. Harry Peale, Sr.
 Hall, Miss Adele
 Hallenborg, Mrs. Charles
 Halleran, Mrs. Arthur J.
 Halpryn, Louis Joel
 Halsted, Miss Marie L. G.
 Hamburger, Mrs. Philip
 Hamerslag, Robert J.
 Hamilton, Sherwood
 Hamlin, Chauncey J.
 Hammett, Dr. John E.
 Hammond, Henry D.
 Hammond, Mrs. John Henry
 Hammond, Miss Natalie Hays
 Hammond, Paul
 Hammond, W. Lyle
 Handy, Truman P.
 Hansen, Arthur W.
 Hansen, Mrs. Helen W.
 Hard, Mrs. De Courcy L.
 Hard, Miss Susan
 Harding, William Barclay
 Hardy, Charles J.
 Hardy, Dr. Edward A.
 Harper, John
 Harper, L. K., 3rd
 Harris, Allen
 Harris, Mrs. Ben Jorj
 Harris, Mrs. Duncan G.
 Harris, John D.
 Harris, Mrs. John W.
 Harrison, John P. S.
 Harrison, Wallace K.
 Hart, Mrs. A. S.
 Harvey, Dr. E. Newton

*Deceased

Harvey, Mrs. Harold D.	Hitchcock, Horace G.	Hurley, James S.
Harwick, Harry J.	Hitchcock, Mrs. Thomas	Hurwitt, Robert
Haskell, Amory L.	*Hobbs, Edmund S.	Hutner, Bernie
Haskins, Mrs. Caryl P.	Hobson, Miss Katherine	Hutton, Mrs. Alice P.
Hasse, Miss Claryce P.	Thayer	Hutton, Mrs. Hubert E.
Hatch, Waldo M.	Hochmuth, Raymond	Hyman, Dr. A.
Hauswirth, Dr. Louis	Hoffman, Mrs. William M. V.	Hyman, Harry A.
Havemeier, Alfred F. J.	Hoffman, Mrs. William W.	Hynson, Mrs. James N.
Havemeyer, Henry O.	Hoffmann, Mrs. John	Ijams, Mrs. J. Horton
Havender, Joseph, Jr.	Hoffmann, Dr. Richard H.	Ingersoll, Mrs. R. V.
Hawkins, Dexter C.	Hofheimer, Joseph	Ireland, Rufus J., Jr.
Hay, Clarence L.	Holden, Raymond P.	Irving, Michael
Haynes, Raymond B.	Holding, Mrs. Archibald M.	Isaacs, Stanley M.
Hayward, Dr. Emeline Place	Hollerith, Miss Natalie	Isaacson, Miss Mollie-Jane
*Hayward, William F.	Hollister, Mrs. Frederick K.	Isbrandtsen, Mrs. G. M.
Hazeltine, Dr. Alan	Holmes, Carl	Iselin, Mrs. Lewis
Healy, Mrs. John H.	Holmes, Dr. Hilary H.	Iselin, Miss Louise M.
Hearst, John R.	Holton, Charles W.	Iseman, Harold M.
Hechinger, Mrs. Sidney	Hopkins, Mrs. Peter S.	Jackson, Mrs. Carle
Hecht, Fred	Hopper, Miss Nathalie	Jackson, Mrs. Clifford L.
Hecker, Mrs. Frances	Hopson, Dr. George H.	Jackson, Mrs. David S.
Heidsieck, Mrs. E. John	Horn, Adam J.	Jackson, John G.
Heinsheimer, Mrs. Norbert	Horn, Fraser M.	Jackson, Miss Lorraine
Heller, Albert E.	Horn, John	Jackson, William E.
Heller, Mrs. Annemarie	Horn, Stephen I.	Jacob, Mrs. Adele
Heller, Dr. John H.	Horowitz, Seymour	Jacobs, Stanley R.
Heller, Tobias	Horowitz, Seymour	Jacobus, David D.
Heminway, John H.	Hotchkiss, Edwin L.	Jacques, Mrs. George W.
Hemley, Dr. Samuel	Houston, Miss Jessie F.	Jaffe, Herman
Hendelson, William	Hoving, Walter	James, Mrs. Henry
Henderson, Alexander I.	Howard, Mrs. Howell	Jameson, Edwin C., Jr.
Henderson, Mrs. Ethel A.	Howard, Mrs. Oscar	Jehl, Dr. Joseph R.
Herman, Dr. John R.	Howe, Dr. Calderon	Jenks, Mrs. Robert I.
Hernstadt, William L.	Howell, Mrs. Edward W.	Jensen, Miss Margaret I.
Herr, Miss Mary E.	Howley, Thomas	Jessup, Everett C.
Hess, Mrs. Alfred F.	Hoyer, F.	Jezer, Dr. Abraham
Hess, Mortimer H.	Hoyt, Mrs. Lydig	John, John P.
Hess, Mrs. Thomas B.	Hubbard, William H.	Johnson, Ernest C.
Hesse, Mrs. H. G.	Hubbs, Clark	Johnson, F. Raymond
Hessel, Sidney A.	Hudson, Mrs. Lea	Johnson, J. Ford
Hewins, Miss Elizabeth L.	Huffman, Mrs. Moore P.	Johnson, T. T.
Heyde, Ernest R.	Huguley, Mrs. Arthur W., Jr.	Johnston, Scott
Heydegger, Roland	Hull, Mrs. Cora A.	Jones, Mrs. Charles
Heydt, Charles E.	Hull, Mrs. Lytle	Jones, David R.
Heymsfeld, Ralph T.	Humphreys, Miss Dena	Jones, Mrs. E. Powis
Hickox, Charles V.	Humphreys, Mrs.	Jones, Herman LeRoy, Jr.
Hicks, Dr. Robert G.	G. H., 2nd	Jones, Cpl. Marvin L.
Hill, E. B.	Hunnewell, Arnold W.	Jordan, Thomas V.
Hillas, Robert M.	Hunt, Mrs. Barron	Joyce, William R.
Hinman, Mrs. Edward	Hunt, Roy A.	Judson, Clay
Hirsch, Mrs. Walter A.	Hunter, Mrs. James H.	Julius, Mrs. Richard B.
Hirshon, Mrs. Walter	Huntington, Miss	Jurka, Dr. Charles E.
Hirt, Miss Elizabeth	Catherine C.	Juta, Jan
Hitchcock, Mrs. Ethan A.	Hurdman, John C.	Kadane, David K.

*Deceased

Kagan, Leo B.
 Kahn, Dr. Arthur R.
 Kahn, Gilbert Sherburne
 Kahn, Walter N.
 Kamholtz, Dr. Theodore
 Kane, Charles B.
 Kantor, Leonard
 Kaplan, Mrs. Jacob M.
 Karselen, Frank E.
 Karmin, Dr. Leo R.
 Katzenstein, Mrs. Thea
 Keehn, Grant
 Keeshan, Mrs. John W.
 Kelley, Nicholas
 Kellogg, Mrs. Francis L.
 Kellogg, Mrs. Frederic R.
 Kelly, Thomas Smith
 Kennedy, Mrs. Mildred T.
 Kennerley, Mitchell, Jr.
 Kerlin, Gilbert
 Ketcham, E. C.
 Kienbusch, Carl O.
 Kilborne, R. Stewart
 Kilham, Miss Teresa
 Killiam, Mrs. Paul
 Kimball, Keith Allyn
 Kimmel, Everett
 Kindler, Albert
 King, Miss Elizabeth
 Kinkad, Miss Jennie H.
 Kinzig, John
 Kirkham, William B.
 Kirshen, Philip H.
 Klausmann, Eric K.
 Klein, D. Emil
 Kleinfeld, Dr. Morris
 Klingenstein, Joseph
 Klingenstein, Dr. Percy
 Klingmann, Albert
 *Knapp, Dr. Arnold
 Knapp, Dr. Philip
 Kneeland, Mrs. Yale, Jr.
 Knight, Mrs. Augustus S.
 Knowlton, Mrs. Hugh H.
 Knutson, Mrs. R. J. F.
 Koch, Edward R.
 Koehl, Albert
 Kopf, Joseph L.
 Korn, Harold
 Kornblum, Ira
 Kotkin, Dr. Sheldon
 Kraft, Dr. Lisbeth M.
 Kranz, Dr. Karl
 Krasnow, Miss Dale

Krasnow, Kenneth
 Krebs, Francis Jerome
 Krech, Mrs. Shepard
 Krezek, K. M.
 Krueger, Richard G.
 *Kuhn, August
 Kynaston, Mrs. Percy L.
 Lachman, Mrs. Gerard
 Lamb, Dr. A. R., Jr.
 Lamb, Mrs. Gilbert B.
 Lambert, Dr. Adrian
 Lamm, Harold
 Lang, Victor A.
 Langman, Mrs. Anne W.
 Langmann, Dr. Alfred G.
 Lapovsky, Dr. Arthur J.
 Larsen, Karl
 Laszlo, Dr. Andras E.
 Lattin, C. Parker
 Lauderdale, Dr. Vance, Jr.
 Law, Frederick G.
 Law, Mrs. Gretchen O.
 Lawrance, Mrs. Charles L.
 Lawrence, Mrs. Arthur B.
 Lawrence, Charles C.
 Laykind, Mrs. Henry G.
 Lazzarini, Dr. A. A., Jr.
 Lea, Mrs. Robert Brooke
 Leahy, John W.
 Leavenworth, Miss Helen Ann
 Lee, Horace N.
 Lee, William
 Leff, Herbert Wilson
 Lefferts, Mrs. Barent
 Lefferts, Mrs. Gillet
 Leidesdorf, S. D.
 Leland, Miss Anne Bronson
 Leo, Jack G.
 Leonard, Leo A.
 Leonard, Craig
 Leoni, Robert E.
 Le Roy, Edward A., Jr.
 Lesser, Steven Dean
 Leventhal, Dr. J. M.
 Levine, Mrs. Milton
 Levinson, Morris L.
 Levy, Abraham D.
 Levy, Mrs. B. J.
 Lewine, Robert W.
 Lewis, Madison H.
 Lewis, Mrs. R. E. L., Jr.
 Lewis, Mrs. Robert J.
 Lichtman, Jerry L.
 Lieberman, Dr. Samuel

Liebler, Walter D.
 Liebman, Julius
 Liebowitz, Benjamin
 Light, Dr. Irving
 Lilienthal, Howard L.
 Lilly, Mrs. J. K.
 Lincoln, Mrs. Frederick W.
 Lind, Dr. Arthur
 Lindemann, Roland
 Lindey, Alexander
 Lipman, Mrs. Walter L.
 Litchfield, Lawrence, 3rd
 Littlejohn, Mrs. Hugh
 Littwitz, Alvin W.
 Livingston, Miss Angelica
 Livingston, Master Michael
 Pardo
 Livingston, Miss Rita
 Localio, Dr. S. Arthur
 Locke, Otto Martin
 Lockett, Arthur H.
 Lockwood, William A.
 Lombard, James M.
 Longstreth, Mrs. N. Lucas
 Longworth, Mrs. Nicholas
 Loomis, Mrs. Alfred Lee, Jr.
 Lorch, Arthur E.
 Lord, Walter
 Lovett, Mrs. Robert A.
 Low, Miss Harriette
 Low, Mrs. Madeleine M.
 Lowell, Mrs. Frederick E.
 Lowenstein, Leo
 Lowing, Mrs. Celia Smith
 Lowman, Lawrence W.
 Lowther, Mrs. Florence deL
 Lucas, William D.
 Ludwig, Jesse J.
 Lueder, C. G.
 Lumb, Dr. Charles L.
 Lunenfeld, Norman
 Lunt, Storer
 Lyon, Alfred E.
 Lyon, Miss Ruth
 Lyons, Mrs. G. Jarvis
 Lytton, Budd
 MacArt, Miss Judith Ann
 MacDonald, Henry
 Macdonald, Mrs. Ronald, Jr.
 Mack, Mrs. Walter S.
 MacKay, Dr. Kenneth C.
 MacKay, Mrs. Malcom S.
 MacLaury, Mrs. Robert M.
 Maeder, Mrs. John S.

*Deceased

Magid, Leon
 Magnes, Master Jeffy
 Mahony, Mrs. Marie A.
 Mali, Mrs. Henry J.
 Maller, Dr. J. William
 Mallett, George A.
 Mallinson, Hiram R.
 Mallinson, Mrs. Hiram R., Sr.
 Manecke, Dr. Phillipp, Jr.
 Maneely, Edward F.
 Mangiardi, Dr. Joseph L.
 Manning, James H.
 Manny, W. Roy
 Manship, Paul
 Markel, Lester
 Marks, Arthur W.
 Marks, Miss Barbara Edna
 Marsh, Alonzo K.
 Marsh, Mrs. S. H.
 Marshall, Miss Edith G.
 Marshall, Louis
 Marsters, Mrs. Arthur A.
 Marston, Hunter S.
 Martin, Alastair B.
 Martin, Barry M.
 Martin, Bradley
 Martin, Miss Elizabeth P.
 Martin, Mrs. Grinnell
 Martin, Mrs. Raymond K.
 Marvin, Langdon P.
 Marvin, Mrs. Langdon P.
 Maske, Gunnar
 Mason, L. Randolph
 Mathers, Dr. James A. L.
 Mathers, William H.
 Mathus, Dr. Francis T.
 Maude, Mrs. E. F.
 Maurice, Mrs. Jane H.
 Maxwell, James K.
 May, Mrs. Charles H.
 Mayer, Harold C.
 Mayer, Mrs. William C.
 Maynard, Mrs. Eric M.
 Maynard, Mrs. Walter
 Mazzia, Dr. Valentino D. B.
 McAlpin, Mrs. Allan H., Jr.
 McAlpin, Miss Dorothy P.
 McAneny, Mrs. George
 McCabe, Frank E.
 McCaffrey, Eugene R.
 McCandless, Mrs. William
 McCance, Mrs. Thomas
 McCanliss, Lee
 McCarter, Thomas N.

McClure, Dr. H. Elliott
 McCrea, Mrs. James A.
 McCurdy, Mrs. J.
 Arrison, 2nd
 McFadden, Louis E.
 McGrath, F. Sims
 McGuckin, B. F.
 McKean, John F.
 McKenzie, Mrs. W. M.
 McKittrick, Thomas H.
 McQuillen, Paul W.
 McVeigh, Charles S.
 McVeigh, Mrs. Charles S.
 McVickar, H. Kane
 Mead, Giles W., Jr.
 Medina, Harold R.
 Meek, Mrs. Samuel W.
 Meeker, Mrs. Robert D. C.
 Mellon, Charles Henry
 Meltzer, Henry
 Menary, Robert V.
 Mendel, Mrs. Margaret P.
 Mendelson, Herbert
 Meredith, Mrs. William M.
 Merrill, Charles E.
 Merrill, Mrs. Pauline G. W.
 Merritt, Dr. Katharine
 Metcalf, Manton B., Jr.
 Metzler, Henry W.
 Meyer, Eugene
 Meyer, George L.
 Meyer, J. Edward
 Michalis, Clarence G.
 Michelbacher, G. F.
 Midinian, Mrs. S. H.
 Milbank, Robert W.
 Milch, Ernest M.
 Miles, Sanford
 Miller, C. Blackburn
 Miller, Lawrence McK.
 Miller, Nathan
 Miller, Mrs. Ralph R., Jr.
 Miller, Roswell
 Millhiser, Mrs. Clarence
 Mills, R. C.
 Mills, Steve
 Milner, Richard
 Milton, David M.
 Miner, Mrs. Eunice Thomas
 Minervini, Alfred P.
 Mink, Dr. Solomon J.
 Minor, Mrs. Clark H.
 Minster, Walling

Mitchell, Mrs. Ashmore L. L.
 Mitchell, Cornelius
 Mitchell, George A.
 Mitchell, Mrs. J. Murray
 Mitchell, John D.
 Mitchell, Ralph C.
 Mitchell, Mrs. S. Roger
 Mobley, Nathan
 Mochi, Ugo
 Moffat, Donald
 Mol, A. A.
 Molleson, George A.
 Molnar, Nicholas M.
 Moody, Harry A., Jr.
 Moore, Mrs. Benjamin
 Moore, Mrs. Edward S., Jr.
 Moore, Garry
 Moore, John I.
 Moore, Mrs. S. W.
 Moran, Eugene F.
 Morawetz, Mrs. Victor
 Morgan, Alexander P.
 Morgan, Junius S.
 Morgan, Robert W.
 Morrel, Dr. Norman
 Morris, Rev. Dr. DuBois S.
 Morris, Dr. Robert H.
 *Morris, Mrs. Robert H.
 Morrison, Mrs. Charles King
 Morse, Edward
 Mortimer, Mrs. Henry T.
 Mortimer, Mrs. Stanley G., Jr.
 Moses, Dr. Leon
 Mosle, Mrs. A. Henry
 Moulton, Francis S.
 Moulton, Henry H.
 Mountain, Worrall F., Jr.
 Mueller, Miss Augusta F.
 Mueller, Miss Louise M.
 Muhlfeld, Frank J., Jr.
 Mullaney, Eugene L.
 Muller, Miss Elizabeth
 Mulroney, Thomas M.
 Mulwitz, Mrs. Saul
 Muma, John R.
 Mumford, George S., Jr.
 Mumford, Dr. R. S.
 Munn, Ector O.
 Murin, Theodore
 Murphey, Dr. James S.
 Murphy, Mrs. John E. B.
 Murphy, Mrs. Joanna J.
 Murray, Mrs. Edward E.
 Murray, Miss Eleanor

*Deceased

Murray, Matthew J.
 Muschenheim, Fred A.
 Myrick, Mrs. Julian S.
 Nachtigall, Dr. Henry B.
 Nagl, George F.
 Naidamast, Daniel
 Namm, Mrs. Benjamin H.
 Nast, Mrs. Ilse
 Nayfack, Bertram S.
 Nazar, Francisco
 Nelkin, Morton
 Nesmith, Col. James, 2nd
 Newburger, Alfred H.
 Newell, Mrs. Edward T.
 Newhall, Donald V.
 Newton, Howard M.
 Newton, William L., Jr.
 Nickelsberg, Miss Elaine M.
 Nickerson, Major Hoffman
 Nickou, Constantine
 North, Mrs. Richard A.
 Northrup, Dr. Jane
 Noyes, Mrs. Dorothy Grinnell
 Nuhn, Mrs. Clifford J.
 Nyden, Gustaf A.
 Nyman, Miss Edith E.
 Oak, Miss Dorothy
 Oakes, Mrs. Malcolm
 Oakley, Mrs. H. Wayne
 Oakley, Mrs. R. Lawrence
 Oastler, Mrs. Frank R.
 Oberrender, Dr. Girard F.
 O'Brien, Morgan J., Jr.
 O'Connell, Dr. C. Paul
 O'Connor, Theodore G.
 Oenslager, Donald M.
 Oestricher, Sylvan
 Offerman, John
 Ogilvie, W. E.
 Olds, Mrs. Robert E.
 Oliver, Mrs. Andrew
 Orden, Miss Ronnie Phyllis
 Oresman, A. Louis
 Ortner, Louis M.
 Orvis, Mrs. Hardin
 Osborne, Carl N.
 Osborne, Lithgow
 O'Sullivan, G. H.
 Otheman, Roswell C.
 Oustucky, Otto
 Pack, Mrs. Howard M.
 Paddock, Mrs. William A.
 Page, Miss Ione
 Page, Nelson L.

Pagenstecher, Miss Bertha
 Paige, Mrs. Douglas
 Paine, Richard C.
 Palazzo, Robert
 Park, A. Brock
 Park, Mrs. H. Halsted
 Parker, Rev. Everett C.
 Parker, George P., Jr.
 Parkinson, Mrs. John, Jr.
 Parmelee, Miss Alice
 Parmelee, Miss Elizabeth
 Parr, F. Van S., Jr.
 Parsons, Dr. Herbert
 Parsons, Mrs. J. Graham
 Parsons, Dr. William Barclay
 Paton, Dr. R. Townley
 Patterson, Dr. Russel H.
 Paul, Charles
 Paul-Wilcox, Miss Iris J.
 Payson, Mrs. Charles S.
 Peck, Stephen Rogers
 Pell, Mrs. Williamson, Jr.
 Pelz, Edward J.
 Pennoyer, Mrs. Paul G.
 Pennoyer, Mrs. Paul G., Jr.
 Perry, Miss Elaine
 Peters, Dr. Frank H.
 Petrucelly, Mrs. V.
 Pezzullo, Joseph John
 Pfeiffer, Timothy N.
 *Pflieder, Robert P.
 Phelps, William H., Jr.
 Philipp, Mrs. Stone
 Phillips, Dr. Walter
 Picker, Mrs. Harvey
 Pickman, Dudley L., Jr.
 Pierce, Allen
 Pierce, Miss Elizabeth Gay
 Pierce, Mrs. Henry B.
 Pinkerton, Robert A.
 Pintauro, Dr. F.
 Pioselli, Mrs. Alice B.
 Pisani, Master George R.
 Place, Mrs. Hermann G.
 Platt, Mrs. Frank H.
 Platt, Livingston
 Plohn, Charles
 Poe, Miss Frances
 Pologe, Mrs. Irving S.
 Pomeroy, Daniel E.
 Pons, Lily
 Porter, Mrs. Cheever
 Post, Miss Evelyn A.
 Post, Mrs. John E.

Potter, Bronson M.
 Potter, Henry C.
 Potter, L. De Grove
 Potter, Miss Mary G.
 Potts, William R.
 Pough, Richard H.
 Poveromo, Vito A.
 Powers, Francis C.
 Powers, Mrs. Helen L.
 Powers, Joshua B.
 Pratt, Auguste G.
 Pratt, Mrs. Frederic R.
 Pratt, Mrs. Harold I.
 Pratt, Mrs. John T.
 Pratt, Mrs. Richardson
 Prentis, Edmund A.
 Prentiss, Marshall
 Prentiss, Mrs. Marshall
 Price, Miss Mary Lyle
 Price, Samuel
 Prince, Richard
 Pruzan, Mrs. Max
 Purdy, Herbert McLean
 Quaile, Mrs. Emerson B.
 Quigly, Miss Elsie Jean
 Rabenau, Herman
 Rabinowitz, Dr. Alex
 Radlhammer, Michael M.
 Ragaini, Dr. Vincent E.
 Rainbeau, Arthur
 Raisler, Robert K.
 Rand, Miss Lucinda H.
 Randall, Mrs. D. J.
 Ranger, Stanley
 Raphael, Master Stephen
 Raymond, Miss Catharine
 Read, Duncan H.
 Reboul, Mrs. J. B.
 Redmond, Miss Joan
 Redmond, Roland L.
 Reed, Carl S.
 Reichert, Robert J.
 Reid, Mrs. Fergus, Jr.
 Reilly, John A.
 Reilly, Mrs. Marjorie
 Reimers, Carl
 Reisch, Dr. Milton
 Reisner, William P., Jr.
 Reisweber, Mrs. G. B.
 Renshaw, Mrs. Paul
 Resor, Stanley
 Resor, Stanley R.
 Resor, Mrs. Stanley R.
 Reynal, Eugene

*Deceased

Reynolds, Master Bobby
 Reynolds, D. S.
 Rhinelander, Mrs. Philip
 Rhinelander, Philip, 2nd
 Richard, L. A.
 Richards, Mrs. Edward L.
 Richards, Mrs. Junius A.
 Richards, Mrs. Lloyd
 Richards, Miss Ruth
 Richardson, Arthur B.
 Richter, Miss Adelaide I.
 Richter, Joseph
 Rick, Miss Karen
 Rieser, Dr. Julian
 Riley, Dr. Henry Alsop
 Rindlaub, Mrs. W. W.
 Ripley, Paul M.
 Ritter, Dr. J. S.
 Rives, F. Bayard
 Robbins, Dr. Robert M.
 Roberts, Fred E.
 Robinsohn, Jacob
 Robinson, Edward
 Robinson, Miss Pauline L.
 Rochow, Donald S.
 Rockefeller, Mrs. David
 Rockwell, Dr. Elizabeth
 Rodd, Thomas, 3rd
 Roehl, Mrs. Winslow J.
 Roessel, Mrs. M.
 °Rogers, Mrs. Benjamin
 Rogers, Mrs. Edward A.
 Rogers, Mrs. Francis
 Rogers, Herman L.
 Rogers, Hubert E.
 Rogers, Russell C.
 Rogerson, Mrs. Stella M.
 Roland, John
 Roosevelt, George E.
 Ropes, Chapman
 Rorimer, James J.
 Rosado, Albert J.
 Rosato, Rocco
 Rose, Miss Mary
 Rose, Robert
 Rosebury, Master Don Hall
 Rosenberg, Charles
 Rosenberg, Edwin A.
 Rosenberg, Mrs. Edwin
 Rosenberg, Dr. Morris
 Rosenberry, Mrs. Samuel L.
 Rosenblatt, Dr. Philip
 Rosenfeld, Saul M.
 Rosenthal, Paul

Ross, Edmund T.
 Ross, Kip
 Rossback, Max J. H.
 Roth, Mrs. Andrew Winton
 Roth, Mrs. Philip
 Rothblatt, Miss Henrietta F.
 Rothchild, Miss Marie-
 Helene
 Rothchild, Miss Starr
 Rothnagel, Harvey
 Rothschild, Mrs. Walter N.
 Rothstein, Miss Jacqueline
 Nancy
 Rougon, Mrs. Louis J.
 Rounsevel, Mrs. Ashton
 Rous, Mrs. Arthur
 Rouse, Harold A.
 Rowan, Dr. William
 Rowell, Mrs. Frank B.
 Ruedin, Pierre
 Ruffolo, Mario A.
 Ruhe, Louis
 Ruhm, Mrs. Herman D., Jr.
 Rumsey, Dr. William L.
 Russell, Dr. Henry
 Russell, Miss Joan E.
 Russell, John David
 Ruth, Rev. Mother C. H. S.
 Rutherford, Lewis
 Rutherford, Winthrop, Jr.
 Ryan, Mrs. John Barry
 Ryder, John H.
 Ryhiner, Peter R.
 Sachs, Teviah
 Sackett, Charles B.
 Sada, Diego G.
 °Sage, Miss Elise E.
 Salmon, Mrs. Walter J.
 Salomon, Morton F.
 Sammis, Donald Stuart
 Samuel, Ralph E.
 Samuels, Mitchel
 Sanderson, John
 Sandor, Paul
 Sanger, Mrs. Elliott M.
 Sartorius, Herman
 Satozky, Dr. Jacob
 Satterlee, Hugh
 Sauerbrey, William A.
 Saunders, Mrs. B. H.
 Sauter, Fred
 Savage, Mrs. T. F.
 Sawin, Moulton
 Sayers, Mrs. Henry S.

Scanlon, Jack, Jr.
 Schaefer, Rudolph J.
 Schauman, Arnold J.
 Schechter, Dr. Samuel
 Schein, Mrs. Max
 Scheinman, Mrs. Victor
 Schenck, Charles
 Schenck, Charles L.
 Scherrer, Miss Clara A.
 Schetty, Frank R.
 Schiemann, Herbert F.
 Schiller, Bernard
 Schilio, Mrs. Lewis
 Schlesinger, Mrs. Edwin
 Schlesinger, Ferdinand G.
 Schley, Mrs. Kenneth B.
 Schlosberg, Richard
 °Schlosser, Fred
 Schmidhauser, Harold B.
 Schmones, B.
 Schneider, Franz
 Schneider, Dr. Harry
 Schneideman, Dr. Julius
 Schnell, Mrs. Erika O.
 Schobitz, Raymond, Jr.
 Scholle, Hardinge
 Scholnick, Abe.
 Schonbrunn, S. A.
 Schortman, Dr. Edward F.
 Schroder, George H.
 Schubert, Mrs. Quentin
 Melling
 Schultz, Harry O.
 Schultz, Dr. Louis A.
 Schulz, Miss Katie
 Schwartz, Mrs. Edward R.
 Schwartz, George I.
 Schwarz, Frederick A. O.
 Scofield, Robert R.
 Scott, Henry C.
 Scott, S. Spencer
 Seagle, Miss Louis Peekham
 Searl, Fred Herb
 Sears, Mrs. Philip S.
 Secor, Timothy Jay
 Segal, Jules
 Seibert, Robert F.
 Seitz, Mrs. Richard
 Selby, John C.
 Seligman, Eustace
 Sergievsky, Mrs. Boris
 Serling, Dr. Maurice E.
 Seronde, Dr. Joseph, Jr.
 Shanahan, T. J.

°Deceased

Shapiro, Marc R.
 Shapiro, Dr. Raymond
 Sharp, Mrs. L. I.
 Shattuck, Mrs. Edwin P.
 Shaw, Dr. Edward J.
 Sheffield, Frederick
 *Sheffield, Mrs. James R.
 Shepard, Dr. Frank P., Jr.
 Shepherd, George E.
 Sheps, Dr. Jack
 Sherer, Dunham B.
 Sherman, Mrs. Louise
 Shiffman, Dr. Harry
 Shippee, Lester E.
 Shookhoff, Dr. Howard B.
 Shrewsbury, Miss Ethel M.
 Siebern, Henry W.
 Siegel, Charles D.
 Siegel, Dr. Henry
 Silberman, P. F. C. Morton
 Silver, Benjamin
 Simmon, Rudolph
 Simmonds, Mrs. L. M.
 Simon, Dr. John L.
 Simon, Mrs. Robert E.
 Singer, Arthur B.
 Singer, Herbert M.
 Singer, Mrs. Tessie
 Sinnigen, Mrs. Walter C.
 Skopin, Mrs. Joseph
 Sleik, Henry
 Sloan, Nathan
 Sloane, John
 Slotter, Mrs. Charles F.
 Smadbeck, Dr. Warren
 Smith, Mrs. Franklin G.
 Smith, Mrs. Harold DeWitt
 Smith, Mrs. H. J.
 Smith, Howard Caswell
 Smith, Lee Thompson
 Smith, Maxim
 Smith, Sherwin D.
 Smyth, Miss Barbara Sally
 Smyth, Herbert C.
 Snider, Miss Nancy Constance
 Snow, Richard B.
 Snowden, Miss Sandra
 Snyder, Peter V., Jr.
 Snyder, Robert H., Jr.
 Sock, Nate
 Soderberg, Gustave J., Jr.
 Solkow, Saul
 Soria, Mrs. Dario
 Southall, Mrs. Abbot

Speakman, Miss Russel
 Speert, Mrs. Harold
 Speiden, Mrs. Hammond
 Sperber, Miss Myrtle A.
 Speyers, Julian R.
 Spurr, Joseph James, 2nd
 Squires, George R.
 Stanley, Alfred T.
 Stanley, Samuel F.
 Stanwick, Charles A.
 Starkey, Earle J.
 Starzel, Mrs. F. J.
 Statham, Noel
 Stauffer, Dr. Tom G.
 Steever, Edgar Z., 4th
 Steffanson, Hakan B.
 Stein, Mrs. Ernest
 Steinhardt, Samuel C.
 Steinhauer, Mrs. Sidney
 Steinway, Henry Z.
 Sterling, Joseph S.
 Stern, Edward N.
 Stern, John Philip
 Stetten, Mrs. DeWitt
 Stevens, Mrs. Basil M.
 Stevens, John P., Jr.
 Stevens, William D.
 Stewart, Miss Josephine
 Stewart, Percy M.
 Stewart, William A. W.
 Stiger, Miss Frances A.
 Stillman, C. D.
 Stoll, Charles H.
 Stone, David B.
 Storck, John
 Storer, John H.
 Stout, Gardner D.
 Stowe, Mrs. Lyman Beecher
 Straatsma, Mrs. Clarence R.
 Straka, Jerome A.
 Straus, Mrs. Nathan
 Strawbridge, Mrs. R. E.
 Strax, Dr. Philip
 Streck, Dr. Charles B.
 Streeter, Daniel W.
 Stringfellow, Miss Ethel Grey
 Stritter, Miss E. Eleanor
 Strong, Benjamin
 Strong, Mrs. Charles H.
 Stroock, Daniel W.
 Strubing, Mrs. William
 Stuart, Mrs. David
 Stuart, Lyall L.
 Stump, Mrs. Edwin A.

Stupp, Mrs. C. G.
 Sully, Wilberforce, Jr.
 Sulzberger, Dr. Carl F.
 Sulzberger, Dr. Marion B.
 Summers, George W.
 Sumner, Miss Estelle
 Sunderland, Edwin S. S.
 Sussman, Dr. Robert A.
 Sutherland, Dr. Arthur M.
 Swan, Joseph R.
 Swanson, Dr. Fritz J.
 Swart, Gerald B.
 Swenson, Mrs. R. B.
 Sydney, Manuel G.
 Taber, Mrs. John S.
 Taddiken, Miss Melita
 Taggart, Mrs. Rush
 Tansill, J. Duncan
 Tarbox, Mrs. Russell Lord
 Taylor, Dr. Gilbert H.
 Taylor, Dr. Gurney
 Taylor, John W.
 Taylor, Mrs. William R. K.
 Taylor, Willis H., Jr.
 Ternstrom, Thorwald
 Thacher, Thomas
 Thacker, J. G.
 Thees, John D.
 Thiem, Mrs. J. R.
 Thomas, Mrs. George P.
 Thomas, H. Gregory
 Thomas, Harvey M.
 Thomas, Mrs. Howard L.
 Thomas, Mrs. Landon
 Thomas, Norman M.
 Thompson, D. G. Brinton
 Thompson, Mrs. Milton
 Thorne, Mrs. John Norrish
 Throckmorton, Mrs. A. D.
 Turcas
 Thursby, Sherman
 Ticknor, Mrs. W. D.
 Tinker, Mrs. Edward R.
 Tinning, Herbert P.
 Tipper, Frederic W.
 Titley, Dr. Mildred S.
 Titus, Robert R.
 *Tousey, B. C.
 Towbis, Mrs. Shirley
 Townsend, Mrs. Frank P.
 Townsend, Mrs.
 Franklin, Sr.
 Traphagen, Hugh M.
 Traphagen, Mrs. J. C.

*Deceased

- Trask, Mrs. Frederick K.
 Trattler, Charles S.
 Treat, Miss Dorothy A.
 Trumbull, Walter
 Turnbull, Mrs. Richard
 Turner, John B.
 Turner, John R.
 Tweed, Harrison
 Valentine, Miss
 Marguerite E.
 Valentine, Mrs. S. Binford
 Van Alstyne, David, Jr.
 Van Alstyne, Mrs. Grace A.
 Van Bomel, Robert
 Vance, Mrs. Cyrus R.
 Vandivert, William W.
 Van Dusen, William H.
 Van Gorder, George
 Van Orden, Miss Joan
 Van Sinderen, Adrian
 Vasile, Dr. John J.
 Veit, Mrs. Robert T.
 Varney, Mrs. Kathrin Grant
 Villa, A. P.
 Viosca, Harry
 Vogeley, Mrs. W. Roebling
 Volk, Kurt H.
 Von Bergen, William H.
 Vorhaus, Dr. Louis J., 2nd
 Vranek, Robert
 Waddell, K. C.
 Wadsworth, Dyer
 Wagg, Mrs. Kenneth
 Wagner, Richard
 *Wagstaff, Mrs. David
 Walker, Bradley H.
 Walker, Miss Elizabeth
 Walker, Dr. John L.
 Walker, Joseph
 Walker, J. Philip
 Walker, Mrs. Samuel P.
 Walker, Samuel Sloan
 Wallace, Charles J.
 Wallin, Miss Grace E.
 Wallin, Miss Mary
 Walsh, James W., Jr.
 Walsh, Thomas J.
 Walter, Miss M. Wendy
 Walther, Francis
 Walton, Harold L.
 Walton, Rudolph L.
 Wanek, Mrs. Ann N.
 Warburg, David
 Warburg, Gerald F.
 *Deceased
- Ward, Mrs. Kenneth
 Wardle, Thomas Forster
 Waring, Lawrence
 Warner, Ira F.
 Warnshuis, Mrs. A.
 Livingston
 Warren, John D.
 Warriner, Robert S.
 Warshaw, Saul
 Wasey, Miss Jane
 Waterbury, Miss Florance
 Waterman, Mrs. Frederick
 W., 3rd
 Waterman, William M.
 Waters, Mrs. F. S.
 Watjen, Louis C.
 Watson, Bruce
 Watts, Edward E., Jr.
 Wauchope, Capt. George M.
 Way, Miss Ruth
 Wayne, Harold L.
 Webb, Vanderbilt
 Weber, Julius
 Weems, F. C.
 Weems, Mrs. F. C.
 Weigert, Hugo
 Weil, Walter L.
 Weilbacher, Miss Estelle
 Weinberg, Mrs. Charles
 Weinberg, Charles L.
 Weinberg, Dr. I.
 Weinman, Major A. N.
 Weinstock, Mrs. Gerard
 Weisberg, Laurence B.
 Weisseenseel, Dr. Robert J.
 Weisman, Dr. Abner I.
 Weismann, Harold A.
 Welch, Francis C.
 Weld, Mrs. Philip B.
 Weldon, Samuel A.
 West, John P., Jr.
 Wheelwright, Mrs. Mary C.
 White, Mrs. Alexander M., Jr.
 White, Richardson, Jr.
 Whitehouse, Sheldon
 Whitman, William, Jr.
 Whitney, Edward A., Jr.
 Whitney, Mrs. George
 Whittaker, Mrs. Wallace
 Whittlesey, Melzar M.
 Wicke, Mrs. Carl
 Wiener, Geoffrey R.
 Wiese, Mrs. Caroline .
 V. der W.
- Wiesel, Dr. Benjamin
 Wilbur, Miss Hazel L.
 Wilder, George J.
 Wilder, Neil MacDonald
 Wiley, Mrs. Alexander
 Wilhelm, Dr. Hazel S.
 Wilkinson, Dr. Joseph B.
 Wilkinson, Mrs. Lawrence
 Willey, Prof. Charles H.
 Williams, Douglas
 Williams, Mrs. Douglas
 Williams, Eliot L.
 Williams, Timothy C.
 Williams, Dr. Walter J.
 Williams, Wheeler
 Williams, Woodbridge
 Williamson, Edward
 Wilner, Ellis H.
 Wilson, Horace H.
 Wilson, R. Thornton
 Windisch, Richard P.
 Winkhaus, Mrs. John T.
 Winslow, Mrs. T. Scudder
 Witte, Mrs. Henry D.
 Wocel, Frank E., Jr.
 Wocel, Mrs. Janet M.
 Wolf, Mrs. Robert
 Wolf, Stanley
 Wolfe, Alan L.
 Wolfe, Arthur
 Wolff, Mrs. J. D.
 Wolfson, Harry C.
 Wood, Mrs. Willis D.
 Woodruff, Miss Helen M.
 Woodward, Mrs. William
 Woolley, John E.
 Woolsey, David Ogden
 Worcester, Mrs. Wilfred J.
 Wormser, Felix E.
 Wormser, Mrs. Max E.
 Wortis, Dr. S. Bernard
 Wright, Guier Scott, Jr.
 Wright, Harrison
 Wulfing, F. W.
 Wyeth, Marion Sims
 Yancey, Rev. P. H., S. J.
 Yepez, F. Fernandez
 Young, George W.
 Zahler, Mrs. Zella
 Zahn, Philip
 Zappler, Georg
 Zausner, Hy
 Zeehandelaar, F. J.
 Zelenko, Harry

Zepp, Dr. C. P.	Ziman, Dr. Edmund	Zischang, John Barry
Ziegler, William, Jr.	Ziminski, Stanley W.	Zuccaro, Master Stephen
Ziesing, Mrs. Hibben	Zinsser, William H.	Zurmuhlen, Frederick H.

SUMMARY OF MEMBERSHIP

December 31, 1956

Benefactors	8
Founders in Perpetuity	14
Founders	15
Associate Founders	5
Patrons	32
Life Members	376
Contributing Members	864
Annual Members	1,875
Honorary Members	5
Fellows	82
Research Associates	3
Corresponding Members	8
<i>Total</i>	<u>3,287</u>

BY-LAWS OF THE NEW YORK ZOOLOGICAL SOCIETY

ARTICLE I • MEMBERS

SECTION 1. The present members and such others as hereafter shall become members in accordance with these by-laws shall be the members of this Society.

SEC. 2. Annual and contributing members shall be elected by the Board or Executive Committee and, upon election, shall qualify for such membership by payment of dues for the first year commencing on the date of their election.

SEC. 3. Annual dues of annual members shall be \$15, and of contributing members \$25. Any person who shall fail to qualify within three months after his election shall be deemed to have declined his election.

SEC. 4. Any member who shall fail to pay his annual dues within three months after notice that they have become due and demand therefor, shall cease to be a member of the Society. He may, however, be reinstated by the Board or Executive Committee for good cause shown.

SEC. 5. Any person who shall have donated to the Society, in the aggregate, cash or the equivalent in value of any of the following amounts shall be eligible for election, by the Board or Executive Committee, to the class of membership appearing opposite such amount:

\$ 300.00	Life Membership	\$ 5,000.00	Founder
\$1,000.00	Patron	\$10,000.00	Founder in Perpetuity
\$2,500.00	Associate Founder	\$25,000.00	Benefactor

An annual member who has paid dues for five consecutive years and a contributing member who has paid dues for three consecutive years, may thereafter, at any time, upon payment of the difference between the aggregate dues already paid and \$300, but in no case less than \$100, be elected a Life Member. Upon the death of a trustee, his widow shall be eligible for election, by the Board or Executive Committee, to Life Membership.

SEC. 6. The Board or Executive Committee may elect to membership in the following classes persons who, in their judgment, have achieved the qualifications hereinafter specified:

Fellows:—Persons of marked scientific achievement.

Honorary Members:—Persons who have rendered distinguished services in the science of zoology or natural history.

Corresponding Members:—Persons who have rendered marked services to the Society through correspondence.

SEC. 7. All but annual and contributing members shall be exempt from payment of annual dues.

SEC. 8. Benefactors and Founders in Perpetuity shall have the power to designate their respective successors, who shall thereupon be entitled to all the rights and privileges of their predecessors, including the right in turn to designate their successors. Such designation shall be in writing indorsed or attached to the certificate of membership or by last will and testament.

ARTICLE II • PRIVILEGES OF MEMBERS

SECTION 1. Each annual and contributing member shall be entitled to a member's ticket, ten tickets of admission to the Zoological Park and Aquarium

on pay days, a copy of the annual report, a copy of the official periodical publication of the Society, and shall be entitled also to the privileges of the Administration Building at the Zoological Park.

SEC. 2. Life Members shall be entitled to all the privileges of annual members and also to ten additional tickets of admission to the Zoological Park and Aquarium on pay days.

SEC. 3. Benefactors, Founders in Perpetuity, Founders, Associate Founders and Patrons shall be entitled to all the privileges of Life Members and also to receive the Society's scientific publication "Zoologica."

SEC. 4. A member's ticket, issued annually, shall admit the member and his immediate family to the Zoological Park and Aquarium on pay days and to lectures and special exhibitions. It may be used by the member's immediate family.

SEC. 5. Each member, other than a member elected pursuant to Article I, Section 6, shall be entitled to one vote at each meeting of the Society.

SEC. 6. Any member who shall fail to comply with the provisions of these by-laws may be suspended from the privileges of membership or dropped from the rolls of the Society, by a majority vote of those present at a duly constituted meeting of the Board or Executive Committee.

ARTICLE III • MEETINGS OF THE SOCIETY

SECTION 1. The Annual Meeting of the Society shall be held on the third Tuesday in April in each year, or on such day thereafter and at such time and place as may be designated by the Board or Executive Committee.

SEC. 2. Special Meetings of the Society may be called upon order of the President or Chairman of the Executive Committee or on the written request of ten Trustees delivered to the Secretary.

SEC. 3. Notice of each annual and special meeting of the Society, stating the time, place and purpose thereof, shall be mailed, not less than ten nor more than forty days before such meeting, to each member at his address last recorded with the Secretary.

SEC. 4. At all meetings of the Society twenty members shall constitute a quorum.

ARTICLE IV • BOARD OF TRUSTEES

SECTION 1. The property, affairs and business of the Society shall be managed and controlled by a Board of Trustees consisting of thirty-six members divided into three equal classes, together with the Mayor and the Commissioner of Parks of the City of New York who shall be members *ex officio* of the Board. Each class of elected trustees shall hold office for three years and until its successors are elected. The term of office of one class shall expire each year and its successor shall be elected at the annual meeting of the Society.

SEC. 2. No person shall be eligible for election to the Board unless he shall be either a Benefactor, Founder in Perpetuity, Founder, Associate Founder, Patron or Life Member and, excepting to fill vacancies, unless his name shall have been posted as a candidate by the Nominating Committee or by not less than ten members in writing in a conspicuous place in the office of the Society not less than ten days before the annual meeting.

SEC. 3. Vacancies in the Board may be filled for the unexpired term by the Board or Executive Committee at any regular or special meeting, by ballot, by a majority vote of the members present; but no person shall be eligible for election to fill a vacancy unless he shall have been nominated at a meeting of the Board or Executive Committee held not less than four weeks prior thereto.

SEC. 4. The Board shall hold an annual meeting in December in each year, on a date and at a time and place designated by the Board or Executive Com-

mittee. Other meetings of the Board may be called upon order of the President or Chairman of the Executive Committee or at the written request of five Trustees delivered to the Secretary. Twelve Trustees shall constitute a quorum.

SEC. 5. Notice of each meeting of the Board shall be mailed to each Trustee at least seven days before the annual meeting and at least three days before any other meeting.

SEC. 6. A Trustee who shall fail to attend three consecutive meetings of the Board, without being excused by the Board, shall be deemed to have resigned as a Trustee.

SEC. 7. The Board at its annual meeting in each year shall appoint three standing committees — an Executive Committee, a Finance Committee and an Auditing Committee — each of which shall serve for one year, or until its successors are appointed. The Board or Executive Committee may appoint such other Committees and delegate to them such powers as they may deem advisable or necessary. The President shall designate the Chairman of each committee. Any vacancy in any committee including the Executive Committee, however occurring, shall be filled by the Board or Executive Committee. Except as to the Executive Committee, a majority of a committee shall constitute a quorum for the transaction of business, but all action shall be decided by a majority vote of the members of the committee.

ARTICLE V • OFFICERS

SECTION 1. The Board of Trustees at its Annual Meeting in each year shall elect a President, a First Vice President, a Second Vice President, a Treasurer and a Secretary from among the Trustees. The said officers shall hold office respectively for the ensuing year and until their successors are elected. Any vacancy for an unexpired term may be filled by the Board or Executive Committee.

SEC. 2. The President shall preside at all meetings of the Society and of the Board, exercise general supervision of the affairs of the Society, from time to time call attention of the Board to such subjects as in his opinion require consideration. Unless otherwise ordered by the Board or Executive Committee, he shall execute all contracts and instruments on behalf of the Society, and shall exercise the usual functions pertaining to his office. He shall be a member *ex officio* of all standing committees.

SEC. 3. The Vice Presidents, in order of seniority, in case of death, absence, resignation or disability of the President shall perform his duties and exercise his powers.

SEC. 4. The Treasurer shall supervise the collection, receipt and custody of the funds and securities of the Society subject to the order of the Board or Executive Committee and the deposit of all funds of the Society with banks or trust companies approved by the Board or Executive Committee. He shall see that all bills and appropriations are paid as ordered by the Board or Executive Committee and checks shall be signed by such officers and agents as the Board or Executive Committee shall determine. The Treasurer shall supervise the keeping of regular and correct accounts and shall submit reports to the Society at its Annual Meeting, to the Board at all Regular Meetings and to the Executive Committee at each meeting. He shall be a member *ex officio* of the Executive Committee and of the Finance Committee. The books of account of the Society shall be open at all times to the inspection of the Trustees and the Executive, Finance and Auditing Committees. The fiscal year of the Society shall be the calendar year.

SEC. 5. The Secretary, unless otherwise ordered by the Board or Executive Committee, shall cause notices to be issued of all meetings of the Society, the Board and the Executive Committee, attend all such meetings and keep the minutes thereof. He shall affix and attest the seal of the Society to all contracts and instruments executed on behalf of the Society unless otherwise ordered by the Board or Executive Committee. He shall conduct the correspondence of the

Society, have custody of the seal, archives and books, other than books of account, and perform the usual duties pertaining to his office and such other duties as the Board or Executive Committee may direct. He shall be a member *ex officio* of the Executive Committee.

SEC. 6. The Board or the Executive Committee may appoint annually a Director of the New York Zoological Park. He shall devote his entire time to the affairs of the Society. Subject to the President, the Board and the Executive Committee, he shall be the executive officer of the Park; shall exercise general supervision of the Park and all activities there engaged in by the Society; shall be responsible generally for the performance by all employees at the Park of their respective duties and for the execution of all orders of the Board or Executive Committee and shall engage and discharge personnel, excepting officers, employed at the Park. He shall perform all such other duties in connection with the business, scientific and literary administration of the Society as may be assigned to him by the Board, the Executive Committee and the President. The Director need not be a Trustee.

SEC. 7. The Board or the Executive Committee may appoint annually a Comptroller. The Comptroller shall devote his entire time to the affairs of the Society except as otherwise ordered by the Board or the Executive Committee. He shall act as chief fiscal officer of the Society under the Treasurer; he shall have custody of and preserve all records and documents relating to the property of the Society, keep proper books of account, see that audits thereof are currently and regularly made, and in conjunction with other officers and officials, initiate and enforce measures and procedures whereby the business of the Society shall be conducted with the maximum efficiency and economy. He shall perform all such other duties in connection with the business, scientific and literary administration of the Society as may be assigned to him by the Board, the Executive Committee, the President and the Treasurer. The Comptroller need not be a Trustee.

SEC. 8. The Board or Executive Committee may appoint one or more Assistant Treasurers, Assistant Secretaries and such other officers or officials as may be deemed necessary, none of whom need be a Trustee, to serve at the pleasure of the Board or Executive Committee, and may define their respective duties. A bank or trust company organized under the laws of the State of New York and having its principal place of business in New York City may be appointed Assistant Treasurer and banks or trust companies organized under the laws of the United States or of the State of New York and having their principal place of business in New York City may be made custodians of the securities and investments of the Society upon such terms as may be specified and with such powers as may be delegated to them by the Board or Executive Committee.

ARTICLE VI • COMMITTEES

SECTION 1. *Executive Committee*—This Committee shall consist of eight Trustees, and the President, Treasurer and Secretary as members *ex officio*.

In the interim between meetings of the Board, the Executive Committee shall manage and control the property, business and affairs of the Society and exercise all the powers of the Board to the extent not delegated to other Committees or contrary to law. It shall report regularly to the Board, and send copies of its minutes and of reports made to it to each member of the Board.

Regular meetings of the Executive Committee shall be held on the third Tuesday in each month, unless otherwise ordered by the Chairman, at such time and place as shall be fixed by the Chairman. Special meetings may be called upon order of the Chairman or at the written request of three members of the Committee delivered to the Secretary. Four members including the Chairman shall constitute a quorum, but all action shall be decided by a majority vote of the members present.

The Executive Committee shall appoint each year a Nominating Committee which shall hold office for one year and until its successors are appointed.

The Executive Committee shall fix the salaries of the officers and employees of the Society unless otherwise directed by this Committee or the Board.

SEC. 2. *Finance Committee*—This Committee shall consist of not less than three Trustees and the President and Treasurer as members *ex officio*.

Regular meetings of the Finance Committee shall be held quarterly unless otherwise ordered by the Chairman, at such time and place as shall be fixed by the Chairman. Special meetings may be called upon order of the Chairman on not less than three days' written or 24 hours' verbal notice.

The Finance Committee shall have power to sell securities and other investments belonging to the Society and to reinvest proceeds of sale and invest any other funds of the Society available for investment, in such securities or investments as it may deem wise. It shall report quarterly to the Executive Committee all purchases and sales of securities and investments made by it. It may submit to the Board or Executive Committee its recommendations with regard to sales or purchases of securities or other investments.

Notwithstanding the power hereby conferred, the Board or Executive Committee may, at any time, direct the sale of any securities and investments held by the Society, or direct the reinvestment of any proceeds of sale or investment of other funds of the Society available for investment in such securities or investments as it may specify.

Directions to any custodian or depository for the purchase or sale of securities or other investments or other action in connection therewith shall be given by the officers, members of the Finance Committee or such agents as the Board or Executive Committee may from time to time determine.

SEC. 3. *Auditing Committee*—This Committee shall consist of three members, other than members elected pursuant to Article I, Section 6, and the President and the Secretary as members *ex officio*.

The Auditing Committee shall cause the accounts and funds of the Society to be audited and certified annually, or as often as it deems advisable, by a certified public accountant of its selection and shall report to the Board on its examination of the report of the certified public accountant.

SEC. 4. *Nominating Committee*—This Committee shall be composed of three members other than Trustees and members elected pursuant to Article I, Section 6. This Committee shall select twelve candidates, to succeed the outgoing class of Trustees, to be voted upon at the ensuing annual meeting. The names of such candidates shall be posted in a conspicuous place in the office of the Society at least ten days before the annual meeting.

ARTICLE VII • AMENDMENTS

SECTION 1. These By-Laws may be amended, either by change or repeal of any provision or the adoption of new provisions, at any meeting of the Board by majority vote of the Trustees present, provided such proposed amendment is set forth in full in the notice of such meeting.



